

Different inter-organizational collaboration approaches in coworking spaces in Barcelona

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Abstract

Inter-organizational collaboration plays a crucial role in the innovative capacity and competitiveness of firms. This article discusses the collaboration practices in localized spaces of collaboration through a study of different coworking spaces in Barcelona, following an inductive and qualitative approach. Three types of collaboration approaches are identified: 1) cost-related collaboration, where agents are motivated in reducing their operational costs and the transaction costs related to collaboration; 2) resource-based collaboration, where agents collaborate to learn or complement their resources by integrating external resources and sources of knowledge; and 3) relational collaboration, where actors engage in intense synergistic collaborative practices. The results show that each coworking space tends to focus on one kind of collaboration type that is influenced in different ways by the coworking space managers. The article contributes to the research on inter-organizational collaboration by explaining how the physical environment and the action of the space and community managers can facilitate the implementation of different collaborative practices among colocated economic agents.

Keywords

Inter-organizational collaboration, coworking spaces, cost-related collaboration, resource-based collaboration, relational collaboration

Introduction

One of the most important trends in the organization literature is the collaboration between organizations. In an increasingly competitive, uncertain and complex environment, firms tend to focus on their core activities, engaging in collaborative activities for a large diversity of reasons, for instance, to decrease costs, learn from others or to have access to knowledge and resources from external sources. Inter-organizational collaboration can be based on formal contracts or legal agreements, like is the case of strategic alliances or mergers and acquisitions. Nevertheless, many other collaborative practices between firms are neither managed by property nor market agreements and are lead by ‘intermediate’ or ‘hybrid’ organizational forms (Borys & Jemison, 1989; Powell, 1987; Thorelli, 1986)□. Coworking is an organizational form that by its own nature facilitates inter-firm collaboration.

Coworking spaces are characterized by the co-location of economic actors that engage in different forms of collaboration, leading in some cases to the emergence of a highly-collaborative community of freelancers, entrepreneurs and professionals. The inter-firm collaboration in coworking spaces is not based on market nor on hierarchies and thus could be defined as an intermediate organizational form.

Despite being an increasing movement that is exponentially expanding all over the world, there is a lack of research and there is not yet a clear understanding of why individuals and micro-firms are attracted to collaborate and how the collaboration takes place in physical co-location.

Furthermore, The study of the different of collaborative practices in coworking spaces contributes to the understanding of informal and emergent logics of inter-organizational collaboration beyond the existing literature that has mainly studied the formal collaborative practices between large enterprises.

This article aims to fill this gap by studying the different inter-organizational collaborative practices that take place in localized spaces as coworking spaces. Coworking spaces offer optimal research contexts for several reasons. First their reduced physical scale and the micro-organizations involved, make collaborative practices more visible in comparison to collaborations between large enterprises where collaborative processes are more complex due to the plurality of actors and interactions. The intensity of the social interaction and the predisposition to collaboration of all involved agents (coworkers, space managers and community managers) also facilitate the observation of dynamics of collaboration.

The structure of the article is as follows. Firstly, the literature review section summarizes the research on inter-organizational collaboration based on the transaction cost economics, the knowledge-based and the resource-based views of the firm and the relational view. Secondly, based on a qualitative study on the collaborative practices in the coworking spaces in Barcelona, the article presents the three different inter-organizational collaboration approaches. Thirdly, we analyze the implications of our results for the collaborative practices between firms in a social and localized context. Before concluding, the limitations to the generalization of our results are exposed considering the specific research context while suggesting some topics for further research.

Literature review on inter-organizational collaboration

The transaction cost economics view

The theoretical core of the transaction cost economics (TCE) is that transactions between agents lead to uncertainty of their outcome due to the bounded rationality and opportunism, defined as “self-interest seeking with guile” (Williamson, 1985)□. To overcome uncertainty, transactions imply costs of negotiation and monitoring. To reduce them, agents might implement a structure “to infuse order in a relation where potential conflict threatens to undo or upset opportunities to realize mutual gains” (Williamson, 1999, p. 1090)□. This collaborative structure depends on the specific investments required by transactions. Economic agents will increase their performance, thus their competitive advantage, if the relation-specific assets, the collaborative structure and the nature of transactions are aligned (Silverman, Nickerson, & Freeman, 1997; Williamson, 1985)□. Consequently, agents engaging in collaboration in order to develop a specialization of assets, will gain a competitive advantage (Klein, Crawford, & Alchian, 1978; Teece, 1987)□.

Specialization of assets are of three kinds (Williamson, 1985)□: 1) site specificity, 2) physical asset specificity, and 3) human asset specificity.

1) site specificity refers to the co-location of production and operations. Site-specific investments can contribute to reduce costs related to logistics costs like transport, inventory, and coordinating costs.

- 2) physical asset specificity, is related to customized and specialized tools and machines of production that are transaction-specific capital investments that allow product differentiation and customization.
- 3) human asset specificity refers to know-how and specialized information and knowledge developed by agents involved in long-term transactions. Mutual knowledge and transaction-specific knowledge increases communication efficiency, reducing costs and increasing competitiveness of agents collaborating.

Although co-investing in specialized assets will benefit productivity, according to TCE, the disadvantage of making specialized investments is that the more specialized a resource is, the lower its value in alternative uses becomes. Consequently, the owner is exposed to a greater risk due to opportunism and contingency compared to the owner of a generalized resource (Klein et al., 1978)□. Following a TCE logic, that risk is reduced by agreeing legal contracts. As asset specificity increases, contracts tend to increase in complexity (Macneil, 1978; Williamson, 1985)□. TCE predicts that transaction costs will necessarily increase in relation-specific investments. Nevertheless, empirical research has showed the inverse phenomenon: more specialized types of collaboration imply lower transaction costs (Dyer, 1997)□.

The knowledge-based view

Confronting the TCE focus on the study of the reduction of transaction costs, Zajac and Olsen (1993)□ suggest to center collaboration on the maximize transaction value. TCE predicts the structural outcome of collaboration depending on the nature of the transactions between the agents involved in the collaborative practices. In opposition, the resource-based view (RBV) affirms that the structure of the collaboration will depend on the resource profiles of agents and its alignment.

Building on resource-based view of the firm (Penrose, 1959)□, several researchers have described inter-organizational collaboration as a source of resources (Eisenhardt & Schoonhoven, 1996; Gulati, 1999; Rothaermel, 2001; van de Ven & Walker, 1984)□ and sharing knowledge as the main goal of strategic alliances and interfirm cooperation (Inkpen & Crossan, 1995; Kale, Singh, & Perlmutter, 2000; Khanna, 1998; Larsson, Bengtsson, Hendricksson, & Sparks, 1998; Mowery, Oxley, & Silverman, 1998; Simonin, 1997, 1999)□. Most of these studies have assumed that the goal is to acquire knowledge through learning. In the next section, we develop the organizational learning perspective of collaboration.

Inter-organizational learning

Inter-organizational learning is critical to ensure competitiveness. Organizational learning is often enhanced by collaborating with other organizations (March & Simon, 1958; Powell, Koput, & Smith-Doerr, 1996)□. Organizations that are able to capture knowledge and ideas that are generated outside their boundaries are develop a competitive advantage (Chesbrough, 2006; von Hippel, 2007)□.

By developing knowledge-sharing routines (Grant, 1996)□, firms can increase their performance and innovation. The type of knowledge shared is relevant. A general distinction in the literature distinguishes between codified (or explicit) and tacit knowledge (Polanyi, 1966)□. Whereas codified knowledge can be easily transmitted through distance without loss, tacit knowledge by its “sticky” character and context-relation is more difficult to codify and consequently to transfer and imitate (Grant, 1996; Kogut & Zander, 1992; Nelson & Winter, 1982)□. Geographical co-location and situated learning and practices (Lave & Wenger, 1991)□ facilitate the transmission of tacit knowledge. As a result, collaborative inter-organizational practices transferring tacit knowledge can result in the

development of knowledge that can be difficult to imitate by potential competitors.

Nevertheless, in order to be able to successfully integrate new knowledge from external sources, organizations need to develop the required “absorptive capacity”, defined as “the ability of a firm to recognize the value of new, external information, assimilate it, and apply it to commercial ends” (Cohen & Levinthal, 1990, p. 128)□. This capacity is however influenced by the context of the interaction between organizations. Knowledge sharing and collaborative practices typically involve an iterative exchange processes build through frequent, trustful and face-to-face interactions of members of the involved organizations that increase the chances of developing the absorptive capacities of both partners (Arrow, 1974; Badaraco, 1991; Daft & Lengel, 1986)□.

Knowledge accessing

The knowledge-base view of inter-organizational collaboration and alliances has generally presumed that the goal was to facilitate the organizational learning, that is the knowledge acquisition of both partners. This view ignores another potential intention of collaboration: not in acquiring, but in accessing other organization’s knowledge (Grant & Baden-Fuller, 1995, 2004)□.

Collaboration might avoid some of the problems of market transactions. For instance, by limiting opportunism by converting single transactions into series of multiple transactions relationships that reinforce inter-organizational trust (Gulati, 1995; Ring & van de Ven, 1992; Simonin, 1997; Teece, 1992)□. Even though collaborative structures, such as alliances, generally lack the authoritative power of hierarchies to organize and coordinate knowledge integration, they present the advantages of combining the benefits of knowledge specialization and the flexibility of integration.

In the case when a large, diverse, and complex ranges of knowledge bases have to be integrated, the most efficient mechanism for knowledge integration are through inter-organizational forms of collaboration like alliances. Collaboration can help organizations to have access to others knowledge bases and to profit from under-utilized knowledge by giving access to partners (Grant & Baden-Fuller, 1995, 2004)□. This dynamic double flow of knowledge import and export provide firms that engage in collaboration with higher flexibility, and lower time-to-market in uncertain and dynamic markets.

The relational view

The two perspectives on inter-organizational collaboration that have been described so far have greatly contributed to the understanding of why organizations engage in collaborative arrangements. However, their level of analysis is the single firm and overlook the systemic effect that imply networks of collaboration. For instance, the TCE perspective consider the mechanisms to reduce costs of an organization, and does not focus on the effects of collaboration on the overall reduction on transaction costs of the whole network of organizations. In a similar fashion, the RBV and knowledge-base view of collaboration is based on the resources and knowledge that are owned and controlled by single firms, overlooking the overall resources that networks of collaboration have.

The relational view on inter-organizational collaboration focuses on the effects of the whole network of firms involved in the collaboration (Borgatti & Cross, 2003; Dyer & Singh, 1998)□. Research on interfirm collaboration in networks of organizations range from studies on strategic alliances, to industrial districts (Inkpen & Tsang, 2005)□. By considering “the dyad/ network as the unit of analysis and the rents that are generated to be associated with the dyad/network” (Dyer & Singh, 1998)□, the relational view suggests that organizations might be motivated to collaborate sharing knowledge and resources considering the resulting outcome at the network level, rather than considering the direct benefits that they could gain (Gulati & Singh, 1998)□. Later on, those collective returns of relational

rents would benefit individual firms. From this perspective, organizations should not seek to capture new knowledge and resources while protecting their own, as advocates the RBV, but rather freely share their resources with other organizations, expecting future returns from the collaboration (Dyer & Singh, 1998)□. Such a relational collaboration strategy only makes sense if the firm considers that the potential value of the collaboration exceeds the disadvantages of knowledge spillovers to competitors. In this line, Andrews (1971)□ claimed that the strategic actions of firms respond to the match between the firm's current resources and the availability of new ones. In contrast to the RBV approach that focuses primarily on the existence or absence of firm's competences, a relational view takes in consideration the strategic opportunity that firms perceive (Gulati, 1999)□ and the network resources that are created through the firms' participation in interfirms' networks (Barney, 1986, 1991)□.

Case study

The coworking phenomenon

The term coworking was first used by Brad Neuberg, a computer engineer that in 2005 founded the coworking space Spiral Muse in San Francisco (Botsman & Rogers, 2011; Deskmag.com, 2013; Hunt, 2009; Jones, Sundsted, & Bacigalupo, 2009)□. A coworking space can be straightforward defined as an "open-plan office environments in which they work alongside other unaffiliated professionals for a fee" (Spinuzzi, 2012, p. 399)□. Coworking is an alternative to working alone at home or in an office for a company. It not only refers to a physical space but also to a way of working in co-location. Coworking spaces distinguish themselves from mere shared offices by focusing on the community and its knowledge sharing dynamics. Coworking.com defines coworking as: "a global community of people dedicated to the values of Collaboration, Openness, Community, Accessibility, and Sustainability in their workplaces" (Coworking.com, n.d.)□.

Concerning this article, coworking spaces are defined as localized spaces where independent professionals work sharing resources and are open to share their knowledge with the rest of the community.

Coworking has emerged as a global phenomenon together with the increasing trend of independent workers, freelancers and free agents (Pink, 2001)□.

Currently, there are more than 100,000 people around the world that are members of one of the 3,000 coworking spaces running around the world (Deskmag, 2012)□. In Europe as in the United States, there are annual conferences dedicated to Coworking where CWS managers meet, share experiences and discuss about common issues. The majority of coworking spaces are small local private startups that run independently with only one or two locations. Nevertheless, some of them are organized in associations to offer more services and create more values for their members. There are several networks of coworking spaces that operate CWS in several locations, such as The Hub, NextSpace or Urban Station.

Being a new and emergent phenomenon, there is still few publications on coworking aimed to practitioners or academics (Davies & Tollervey, 2013; DeGuzman & Tang, 2011; Forlano, 2011; Jones et al., 2009; Jones, 2013; Kwiatkowski & Buczynski, 2011a, 2011b; Nakaya, Fujiki, & Satani, 2012; Spinuzzi, 2012; Townsend, Forlano, & Simeti, 2011)□.

Barcelona as a coworking hub

In Barcelona, more than one hundred spaces define themselves using the term coworking. Barcelona is the European city with the higher density of coworking spaces per inhabitant and one of the main hubs for coworking in Europe. New coworking spaces are being inaugurated in a regular basis, while many

others are still almost half empty. As a space manager put it: “Currently, there are more coworking spaces than coworkers”.

Despite of the fact that there are many CWS in Barcelona, coworking as a practice is not very well known. A big part of the effort of the managers of coworking spaces is to diffuse what coworking is and which are the benefits for freelancers and autonomous professionals. About one third of the CWS of Catalonia have recently collaborate to create the Catalan association of coworking spaces (cowocat.cat) whose first objective is to promote coworking among Catalans and foreigners.

The main reason of the coworking explosion in Barcelona is due to the economic crisis that Spain has suffered in the last years. From one side, many companies had to reduce their workforce leaving underutilized workspace. To monetize the empty spaces, some of them have been rented as coworking spaces. From the other side, the effect of the crisis has increased the difficulty to get a job in firms and thus, the number of freelancers, entrepreneurs and autonomous workers has increased. Coworking spaces represent third places (Oldenburg, 2002) □ where they can work, socialize while avoiding the high costs related to renting an office.

Barcelona has also become a European coworking hub because is an attractive city for foreigners. Many professionals have moved temporarily or for long periods to work in the city and coworking has offered them a possibility to have a flexible workspace and get in contact with the local social and professional environment.

Nevertheless, coworking has also an historical base. It represents also a natural evolution of the Catalan tradition of associativity and collectivism that characterizes the social-economic substrate of the Catalan society.

Methodology

This research was based on an inductive, qualitative methodology. A qualitative approach can help explain how theoretical principles are enacted in particular cases (Van Maanen, 1998) □, in particular, those cases that defy existing categories or theoretical explanations. Furthermore, qualitative methods are most suitable for phenomena that is novel and that has not been previously theorized (Eisenhardt, 1989) □.

Data collection

The study is mainly based on two sources of data: semi-structured interviews, and direct observation. Secondary data like the content of the spaces’ web pages, online forums and discussion mailing lists has also been taken in consideration.

Semi-structured interviews. The main sources of data were semi-structured interviews. Respondents represented two different groups of actors. The first group consisted in 28 interviews with managers and members of 21 different coworking spaces. Interview questions focused on the motivations to engage in collaborative activities and on the activities of the community related to interaction and collaboration between members. As part of a triangulation strategy, a second group of 13 interviews were conducted: four to managers of similar spaces from other European cities (Berlin, Brussels, Florence, and Madrid), and nine to specialists from Barcelona that have followed the evolution of the collaborative spaces in the city. These individuals were researchers, practitioners and policy makers that represented what Eisenhardt and Graebner (2007, p. 28) call “highly knowledgeable informants who can view the focal phenomena from diverse perspectives”.

Direct observation. The second main source of data was non-participatory observation of the

community activities. In total, I conducted about 30 hours of formal observation and several more of informal observation. Following observations, I took notes that helped me to build a more comprehensive understanding of the environment, the knowledge dynamics and interactions between the members of the communities.

Data analysis

The data analysis was based on an open ended and inductive approach (Strauss & Corbin, 1990). The research conformed to the principles of grounded theory from cases (Dougherty, 2002; Eisenhardt, 1989; Yin, 1984). Data analysis began as the field work began: I wrote commentaries on each interview and observations, noting emerging themes. Interviews were transcribed the same day of the interview or the day after. Transcriptions were progressively coded in order to build an initial list of themes and codes for analyzing the data. Themes and codes emerged from the data rather than being taken from theory or previous research (Agar, 1980). In a second stage, I explored how the different codes and categories were interrelated configuring three types of collaboration approaches characterizing three types of coworking spaces. The coding process followed the approach suggested by (Strauss & Corbin, 1990) in terms of open, axial and selective coding, while iteratively moving back and forth between open and axial coding several times. The data was analyzed through an iterative process, and categories subsequently developed that informed further rounds of interpretation.

Results

Our study case addresses the research question: How is collaboration enhanced in coworking spaces? The collected field data reveals three sets of distinct but complementary collaborative approaches that lead to different collaborative dynamics and types of coworking spaces. These three approaches can be summarized as follows:

1. Cost-based collaboration: The main goal of collaboration is based on the reduction of operational or transaction costs.
2. Resource-based collaboration: Agents collaborate driven by need of learning or having access to new knowledge and resources.
3. Relational collaboration: Agents engage in collaboration seeking synergistic results, investing actively in the community building dynamics.

As we explain in detail in the analysis of the findings, depending on the collaborative approach, the practices of both coworkers and managers of coworking spaces will differ. Furthermore, the managers of the spaces might reinforce or even ignite the collaborative dynamics among the members of their coworking space, nurturing the emergence of a collaborative community that might eventually expand outside the coworking space boundaries. Despite managers can influence collaboration, the final results will depend on the will and action of the members.

Even if three approaches are conceptually differentiated, they are not completely independent in the practice. Some spaces might show different degrees or combinations of the three. However, the three approaches can be quite clearly distinguished in the coworking spaces in Barcelona.

As we will show, the three dynamics are interrelated as they increase in collaborative complexity and engagement of community members and managers. The different approaches are not static. The emergent collaborative communities of a space might begin motivated by a simply reduction of operational costs and might evolve to a highly collaborative and efficient community. Contrarily, a poorly managed space might demotivate collaboration and finally be forced to leave the market.

Our findings are schematically in Fig. 1

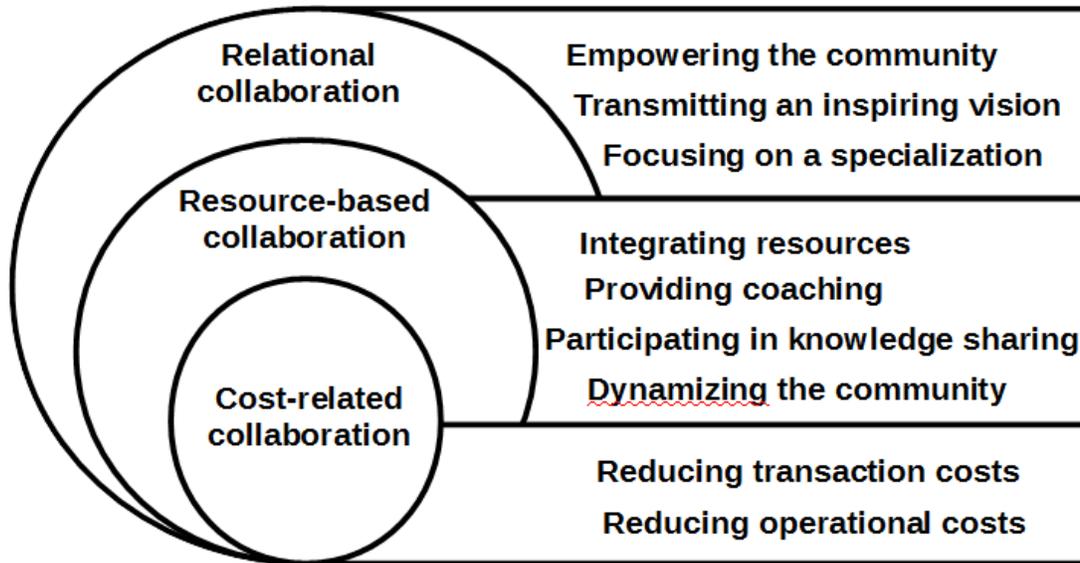


Fig.1. The different collaboration types

Cost-related collaboration

Coworking is a new phenomenon. Generally, self-employed professionals approach coworking spaces for the first time ignoring what coworking is about. In many cases, they are initially attracted by escaping from the distractions and lack of self-motivation that working alone at home represents. All coworkers interviewed by Spinuzzi (2012) reported that had tried working at home but were unsatisfied due to experienced distractions, self-motivation problems, and feelings of isolation. The need of socialization and leaving home to work make that one of the main reasons of choosing a coworking space is its location, either near home or in a convenient location (near customers for instance).

Coworkers, apart from the socialization aspect, soon realize that coworking represents also a cost reduction. Entering a coworking space might represent a reduction in the operational costs of new founded start-ups but creating a coworking space might also represent a cost reduction for an existing organization.

In this section we discuss the reasons to collaborate driven by cost reductions. These costs reductions are not only monetary savings related to sharing an office or assets, but also the reduction of transaction costs linked to the proximity to other agents, located in the coworking space or in the surroundings.

The combination of the opportunity of socialization, a convenient location, and the cost reduction represents in many cases the base of collaboration. A coworking space manager in Barcelona summarizes it in this way:

Location is important. We are very centric. Our price is very competitive, not too expensive nor very cheap. In relation to what we offer, it is a very good deal. But more importantly, is that there are very good vibes. It is a very pleasant environment (Interview with manager of space 1)

Reducing operational costs

Reducing general costs

In comparison to working at home, coworking represents a cost. However, in comparison to renting an office, coworking represents a cost reduction. Even if cost reduction is not the main driver of coworkers (Spinuzzi, 2012)□, the cost of membership is a decisive variable for many coworkers. Coworking spaces in Barcelona clearly compete in price, and price differences might represent to have the space full or almost empty. As a manager explained:

We had people coming for a short time, that went to other spaces six months later. [...] We were five coworkers and we decided to reduce the membership 10 Euros: a month later, seven new members had come. Our fees are very competitive and the space is very good to work. We thought that it would be good to have a nice space and also a good price. The idea is that the whole space is used. We prefer to have people at a reasonable price rather than having only three persons paying a high price. (Interview with manager of space K)

Coworking spaces not only reduce the direct costs of coworkers, but also simplify the countability of their costs and optimize their working time. A manager explains these other advantages:

If in your business plan you consider a monthly expense of X, it makes your job much easier. You know exactly your expenses. [...] You just come to work. If a package or letter comes by mail, we deliver it in hand. We want coworkers to feel like professionals that can just focus on their work, with a service that supports them. (Interview with manager of space K)

Coworking also can represent to get more for less. For instance, a manager explains by sharing, coworkers can have access to a better space that would normally get if rented just for a single firm:

People come and tell us that we have the best coworking space in Barcelona. There is a lot of light, there is a lot of space and a huge terrace [...] They love this space. People choose this one for the physical space. [...] We could not afford the space we have here if we were only us. (Interview with manager of space J)

So far, we have exposed some of the reasons of professionals to collaborate by sharing costs by entering a coworking space. However, not only members reduce costs, also founders of coworking spaces. Founders usually are coworkers themselves, alternating their role as space managers with other professional activities. A manager explained how coworking gave them access to a bigger working space:

We were looking for a space for us [our startup]. We found this space that is very big and we talked to the landlord to convert it into a coworking space managed by us. We are a company that develops software, but we also manage the space. (Interview with manager of space J)

The Spanish crisis might also be a reason to start a coworking space. Some need to look for new economic resources to maintain the same working conditions reducing the cost:

In 2005, everybody had money. Everyone pays a table here. We are seven associates. When the crisis came, incomes decreased and this is a very big space and it is very expensive. We were very well here: central, nice to receive clients, a training room for training and discussion groups, very useful. To leave this and look for another space, smaller and cheaper... We decided to get involved in the management and share it with other people. [...] I used to pay

400 euros for my table, now I pay 250. I have reduced my fee but I pay the same as the other coworkers. (Interview with manager of space I)

This situation is especially significant in the case of architects, that have seen their income drastically reduced due to the crisis:

This is an interior design studio. We were 25 persons four years ago and our industry was the most affected by the crisis. We set up a huge office of over 400 m² with 25 people and after the crisis, we come to this office that we own. In fact my coworking is the result of a necessity. [...] So it is not for me a business but a way to help me to keep mine and on the other hand share a little humanity. (Interview with manager of space M)

In other cases, managing a coworking space allows managers to avoid all their office costs:

When we will rent eight more tables, the benefit will be higher and we will have access to an office that we will not pay. (Interview with manager of space K)

Costs related to specific assets

As we have shown, in some cases, the reduction of costs is relative to the cost of renting an office. In some other cases, the cost reduction is relative to the required investment to fulfill the needs of coworkers. For instance, professionals needing specific tools or machines, like designers, or architects, might be interested in sharing costly specific assets, as plotters, prototyping machines or 3D printers with other professionals. Coworking spaces that base the collaboration in sharing the costs of specific assets tend to specialize around professional domains. These coworking, apart from offering a place to work, usually also offer complementary services to their coworkers, as a manager explains:

Technology is the differential factor of our space. We have our own servers and symmetric connections. To upload 2 Gb at home, you have to leave it all night and wait for the connection not to break. Here, we have a data center, a specialized infrastructure for technology companies. [...] We can not compete in price with the big American data centers. What we do is to compete with quality and safety. Customers know that our servers are not in Alabama, but in Catalonia. We offer hosting on servers that are not saturated. (Interview with manager of space D)

However, investing in expensive specific assets does not necessarily attract specialized coworkers. The manager of a coworking space inside an interior design studio had difficulties to attract architects and designers as coworkers:

I don't know. I have seen some reluctance in the worked for architecture and interior design. It surprises me, here everything is set. We have machines, plotters, everything. To equip such a studio is a fortune. Now, to come here, and use it and just leave when I don-t need it... but no. [...] In the beginning I wanted that the coworkers had our same speciality. Now I have to hire people from outside. To decorate a hotel. I would have hired my own coworkers if they would have been here. (Interview with manager of space M)

Reducing transaction costs

So far, we have presented some elements to understand why agents collaborate in order to reduce costs.

In this section we focus on how agents reduce costs in order to collaborate. By being in co-location, coworkers can easily socialize and interact in an informal manner, and thus reduce the costs related to seeking information, reaching agreements, or controlling partners. In other words, geographic proximity can reduce the transaction costs related to collaboration.

Coworking facilitates physical proximity at different levels (city, district, coworking space) to allow collaborations with a face-to-face interaction.

Access to privileged location

Urban coworking spaces allow professionals from outside the city to have access to local customers, suppliers or colleagues.

Barcelona is an attractive city for foreigners to work in. Coworking spaces are a popular option for foreign professionals that come to work in Barcelona temporary:

Almost 70% of members are foreigners, in our space and also in the other spaces. [...] In Barcelona, there is a high percentage of itinerant foreigners that work for companies from all over the world and that are used to work in similar spaces all over the world. [...] It is people that is not suffering economically speaking and that is very used to these new ways of working. (Interview with manager of space F)

Having the possibility to work in Barcelona is also important for professionals that live in the periphery of the city and need to meet customers and suppliers in the city center:

The first variable that a coworker considers is the proximity, and second the community [...] There is people that comes from Maresme [20 km north from Barcelona] and come to our space because of proximity. We are the first coworking space that they find coming on the motorway. It is a kind of proximity that we were not expecting. (Interview with manager of space D)

Two or three live in the neighborhood, but not the rest. There is a guy that lives in Olot [100 km from Barcelona]. He is a carpet salesman that establishes Barcelona city center as his meeting point and then he moves around. This office is very good located and his center of operations is here. (Interview with manager of space K)

Collaboration in co-location

Working in co-location allows to reduce the transaction costs of seeking for collaborators, and following up the progress of the collaboration.

Among our coworkers, there is collaboration. For example, the other day a web designer, a coder and a SEO [Search Engine Optimization specialist] worked together in a project. To work with the people that surround you, it is all advantages. For instance, we ha a Brazilian girl who is a web designer and she had all her team in Brazil. She brought all of them here. Now they do all the design here. The emergent countries like Brazil are not what they used to be. It is priceless to do everything with everybody in the same space: the coder sitting next to you,... (Interview with manager of space D)

There is collaboration. For instance, the designer got a job from a customer that also needs a website. He just turned his back and told the web designer. (Interview with manager of space H)

There are a lot of opportunities. Someone might say “I am a writer but I need a website and I can't pay. Another might do websites and needs a writer. Someone might be blocked, another might be a coach. (Interview with manager of space E)

In the above examples, collaboration is based on the exchange or subcontract of services that complement each other. The services offered by the providers are not unique or exclusive and they could have been found outside the coworking space. Co-location allows actors to get to know the other coworkers and in case they require the services they offer, they will tend to contract them from their colleagues that from an external supplier.

In other cases, sharing a coworking space helps coworkers to collaborate to subcontract a peak of work when they lack resources. In this way, working next to other workers of the same professional speciality provides a buffer capacity in some cases, and job opportunities in others, like some managers mention:

We have here 5 programmers and almost all are web coders. They did not come together. They met here and they are now collaborating. Three of them have arrived this month and they are already collaborating with the others: “Look, I can't manage alone with this project, help me with this”. This people has a lot of work. Lucky them. An Englishman that just started a company is collaborating with another programmer. They all help each other, but of course, if they do a job for another, they get paid. (Interview with manager of space G)

Collaboration opportunities among coworkers might not be provoked from an intentional effort of searching partners, rather by emerging through the daily social interaction among coworkers, as in the following examples:

There is an interior designer that knew nothing about construction and she collaborated with an architect in a renovation project. If they need something that they can find here in the community, they take it from here. (Interview with manager of space G)

Actually we are doing the flat renovation of the mother-in-law of a girl that works here. We have ordered 4000 m² of carpet for the Mobile World Congress to another coworker that had started his company six months ago. I saw the carpets, checked the price with my boss and gave him the order. He is very happy. Definitely yes,... (Interview with manager of space K)

More than collaboration in projects, we have new possibilities with potential customers. The guy that does consulting for companies has given a contact to a friend of mine. The architect benefits from all our documentation. I have used a lot the services of the translator. Everybody is very happy. The judge helped another one that had problems with lawyers. This is the maximum collaboration that has emerged, rather through personal contacts than professionals relationships. (Interview with manager of space M)

These collaborations are very dependent on the coworkers informal daily interactions. Social activities might reinforce the social bonds of coworkers, as in this example:

Every Thursday we go to eat lunch together. We organize things. We will go to have a barbeque

with the children. Everybody knows each other and what their work is about. If someone needs a service, the guy of the next table might help. There are a lot of collaborations. (Interview with manager of space G)

However, in some cases social interactions depends exclusively on the coworkers initiative, risking a lack of collaboration among coworkers:

I do not urge people to collaborate. It depends on the kind of people we have. They are closed units of work. We have done some collaborations. When we had some parts of our software to design and if we had a designer near, we used to ask him. It didn't happened much, though. (Interview with manager of space J)

In the above presented examples, collaboration is a “functional collaboration” rather than a “thematic collaboration” as a manager describes it.

Resource-based collaboration

In the cost-related collaboration, coworkers are motivated by reducing their operational costs or the transaction costs related to collaboration. As we have shown, in previous examples, collaboration is done on the basis of reaching the lowest cost. Agents are driven by self-interest and in most cases, collaboration emerges as a non intentional effect of social daily interaction.

In many other cases, though, coworkers engage actively in collaborative practices, participating in activities and events to search resources to learn from or simply integrating them with their own resources to enlarge their professional possibilities.

In this section, we described the different collaborative practices that benefit this resource-based collaboration. They can be summarized as dynamizing the community, participating in knowledge-sharing events, providing coaching and integrating resources.

Dynamizing the community

Collaboration is often based on the need to combine different types of knowledge bases and resources. Nevertheless, to identify, select, combine adapt, integrate or use external resources are not simple tasks. Part of the role of coworking spaces managers is to help coworkers collaborate together, as a regional policy maker assures:

The facilitator or the responsible of the space plays a fundamental role in order to have interaction and collaboration between the users of the space. (Interview with a representative of the Catalan Government)

Some managers understand that the dynamization of the community is crucial and it is their competitive advantage to attract coworkers:

We are professional managers and we are dedicated 100% to the coworking activities. [...] I am the project manager, this function is called community manager in the USA. I take care of the community of the space and of the external projects, the relationship with other spaces, etc. (Interview with manager of space C)

I have here people that have been to other spaces where there was no dynamization and that have come here because there is complementarity and dynamization. (Interview with manager of space H)

Participating in knowledge-sharing events

Coworking is about creating a community (Coworking.com, n.d.)[□] and social events play an important role in the community building process. Events can allow members to know each other and their respective projects, interests and specialties. Events open to people from outside the space facilitate also the knowledge cross-pollination and the exposure to external knowledge. Events offer the opportunity to coworkers to scan for new knowledge and resources, identify opportunities and make contacts for potential collaborations. Events attract individuals with similar interests, reinforcing the local community around specific themes. For instance, events contribute to create a local cluster around social economy in the coworking space B:

There is an association that unites a lot of associations sin Catalonia and in Spain interested in ethic fiances. The day when there is a general assembly, it is plenty of people here. [...] Each association has its own activity. There are lots of people that flow in this space. We were not conscious of that in the beginning but now we are. The fact of having a space, has positioned us relatively to the kind of entities and groups that are here. (Interview with manager of space B)

In this way, the combination of the continuous co-location of the coworking space community with the sporadic co-location of an external community, nurtures the emergence of a local thematic community:

A good very good thing is to create a community beyond the 15 people that can cowork here, and to use the space that we have here to do monthly meetings to talk about communication, with about 20 people. In three months, maybe we will be a community of about 50 people, even if not all are coworkers from our space. We create synergies beyond the physical space. (Interview with manager of space A)

Events also allow managers to get more visibility for their space and to gain reputation. Participants to events are also potential future coworkers:

[Events] bring us recognition, reputation and a flow of visitors. Of course, the idea is also that people get to know us. The idea behind coworking is to share, not only the space but also knowledge. And a way of sharing this knowledge is through our club's events. Some of the participants have afterwards become coworkers. How many? Maybe 10%. (Interview with manager of space F)

Providing coaching

Managers of coworking spaces help their coworkers to develop their collaborative skills and to find new opportunities to collaborate.

In some cases, coaching activities are internal groups meetings, where coworkers give support and provide advice to each other. For instance, a manager explained:

One of the main tasks of managers is the dynamization. The first thing we do when a new coworker comes is to present him and his project to the community. [...] We also use our [space] club for members that want to present their project. We contribute to knowledge sharing. If you are in a critical moment of your project and you need that another professional validates it, then we can do this contribution as consultants. We organize monthly meetings

where, through a methodology of active listening, the group presents doubts about their projects. The doubts need to be very specific, for instance, “how can I get to that difficult client?”, and the rest of us tries to help, for instance “I have this contact that might help you” or “have you tried to do this proposal differently?”. It is a very practical help group. Everybody can participate. (Interview with manager of space F)

Other managers focus their coaching support to members that by their personal or professional characteristics, have more difficulties in collaborating with others. For instance, a manager underlined that shy individuals are the ones taking more advantage of their services:

The profile of a member of a coworking space is not a salesman. A salesman is able to meet people wherever he is. This is about creating opportunities for people that do not have this profile. Doing events, [...] or doing anything that increments the chances for people to meet. [...] For instance, we had a very timid person, a translator, that had difficulties to relate with other coworkers. I introduced him to other members, to other translators,... (Interview with manager of space C)

Similarly, another space give support to professionals that need coaching about their careers:

One of our partners works as a coach and she has a lot of contacts. She created a group of people that were in a professional transition. They were unemployed and were searching new challenges. Some of them had their own projects and they started working in our space as coworkers. (Interview with manager of space F)

As in the previous example, in some spaces coworkers needing professional support get better deal as long as they are aligned with the values and focus of the coworking space. This can also benefit on attracting a certain type of coworkers:

The space has two floors, the business zone upstairs, where coworkers pay more. Downstairs, is more about patronage, even mentoring. If you are between 18 and 30 years old and are a techie, we give you a better price. We even let you pay half of the price during some month and if your business progresses, we go back to the normal price. It is a combination of what people need and what we need. In an indirect way, the community brings community. If you have lemons, you sell lemons... (Interview with manager of space D)

In some cases, accepting coworkers in an organization is a way of coaching entrepreneurs in the practice of the field. For instance, space B was initially shared by a group of cooperatives that focused on social economy. They decided to share their experience in social business creation to give support to entrepreneurs that were interested in sharing their space, as one of the managers explained:

In our group, we created a work group thinking that we had a long-time experience in creating alternative businesses and now that there is a general interest for the social entrepreneurship and that we want to create supply and demand with certain values, why don't we create our own initiative for entrepreneurs with this same profile? (Interview with manager of space B)

Integrating resources

Coworking offers access to a diverse spectrum of resources that can be integrated to offer new services. This collaborative practices are different from the ones described as cost-related collaboration were

agents were driven by the self-interest of filling a resource gap in a given project. In opposition, in this section we present cases of collaboration which goal is to create new projects, products or services by the combination of different resources of a group of coworkers. The outcome is a new collaborative endeavor. Even if, as it is the case in cost-related collaboration, the different needed resources that are integrated could have been found outside the coworking space, co-location and daily face-to-face interaction between coworkers facilitate the process of integrating and coordinating resources.

The projects developed in these collaborations can be assimilated to the services offered by a single firm:

The future is to offer integral projects, making that everybody comes together to develop a project as a temporary union of firms. [...] We know that renting tables is not a business. We want to create and support this need to do projects together. We think that this might be a possibility to develop a business for us. (Interview with manager of space H)

These project-based collaboration reflects the current trend of decentralization, outsourcing and externalization of resources. From this perspective, coworking spaces offer a flexible organizational structure that can adapt to dynamic markets. As a manager clarifies:

Currently, companies are decentralizing a lot and externalizing many types of services. One of our objectives is to offer time-limited services to firms. In this way, firms could outsource some work and we could offer integrated services involving our members. This would be a great way for freelancers to understand the corporate world and teamwork. (Interview with manager of space H)

Coworking allows professionals to offer integrated services that could be developed individually. However difficulties coordination and a lack of experience in this type of collaboration might represent an obstacle to further collaboration.

I am interested in collaboration beyond our space. I think that by collaborating we can face much bigger projects than individually. But there is a lack of culture among freelancers. It is very difficult if there is not an agency. These handicaps cause a lack of opportunities. Maybe the problem is that we like to be employees. (Interview with manager of space A)

The lack of a structure that manages the coordination and integration of the resources represents a difficulty to collaboration.

I opened a coworking space after a thinking about collaborative work. I was employed in a multinational company and I observed that what the big communication firms do is to subcontract freelancers for their projects. They are big firms but not all workers are employees. I quit that firm to do start a consultancy to focus on strategy. I started this coworking thinking that if we can look for people that are currently being fired from multinationals, we could start big collaborative projects. That is the idea behind our space.[...] But one of the problems is how to organize ourselves. The leadership and the management of collective projects are very complicated. To be freelancer for a company is very easy. "do this, I pay you this" but for a group of peers, it is very complicated. (Interview with manager of space A)

Establishing the budget of a collaborative project might be also problematic, as well as the distribution of the benefits proportionally to each member implication and effort. In opposition, in a traditional hierarchical structure, the coordination and retribution of resources are simplified ruled by formal

contracts and market prices. As a manager explains:

We can be considered as the new model of agency. Our model is powerful but it is very complicated. The price of the resources is fixed by the market. If a designer wants to be paid a lot, the agency can tell him “if you don’t do it for this price, another will take the job”. In a collaborative model, this is much more difficult. On the one hand, there is the value and on the other, the possibility of being substituted. The value is how important is the media strategy in this project. The “substitutability” is related to the number of persons that can do this same job in Barcelona. [...] In a project with peers, this has to be very clear. In a collective project that we did, I had a hard time fixing the budget, the price. It finally didn’t work out but in case it would have succeeded, we would have had problems to distribute the income. Or imagine we would have to cut the budget somewhere. It is delicate. (Interview with manager of space A)

Relational collaboration

The cost-related and the resource-related types of collaboration lay on the principle of collaborating to benefit all the implicated agents individually. In a resource-related perspective of collaboration, the focus of the managers of spaces was to give individual support to increase the changes of each coworker to collaborate with others. In this section, we present other types of collaborative practices that are based on the resources that are developed by the whole community rather than on the sum of the resources of the different agents of the community. From this perspective, the collaborative practices are mainly focus on finding a synergistic effect of the collaboration. In other words, practices focusing on relational collaboration are based on the premise that the outcome of collaboration is superior to the sum of the parts involved. As we show in this section, practices to facilitate relational collaboration are centered on the community as a whole rather than on collaborating agents.

Focusing on a specialization

Most coworking spaces foster collaboration by seeking to put in contact different and complementary resources and knowledge bases. Co-location is however not a sufficient condition. In order to facilitate knowledge sharing and fruitful communication, agents have to have the sufficient absorptive capacity to be able to recognize, assimilate and apply new knowledge from an external source. Either by an organic process of natural selection or by an intentional selection process by the space managers, some coworking spaces tend to specialize in a specific field. Specialization does not mean that coworkers tend to have the same professional or educational background, but rather that the space attracts individuals with similar views and affinities. A manager whose space focuses on social entrepreneurship clarifies it:

We need a specific focus. If not, what is our work based on? Which collaboration goal can you establish in a place is there is no purpose? [...] It doesn’t mean that people have to be necessarily very specialized. For instance, our theme is social impact and it is not a narrow at all. There is social impact in housing, in collaborative economy, in education, in many thing. [...] It is not very specialized, it is thematic. (Interview with manager of space L)

Reasons for specialization might have different origins. In some cases, the will to specialize is related to the associated values, in other cases, to specialize represents a way of having a distinguishing factor in relation with other spaces:

The other coworking spaces are not competition. If another spaces just next door with better prices with similar services, then it might represent competitors. But other spaces are just different. We are not better or worse, just different. (Interview with manager of space C)

To ensure that all coworkers understand the coworking dynamics in the same way, some managers follow a selection process. For instance:

We have an admission process. The director or myself [community manager] do an interview. We act in an organic ways, there is not a script. We explain very well what [our space] is. We spend 60 to 90 minutes to explain what they can expect from us and what we expect from them and the rest of coworkers. Normally, during this process, people that do not fit, decide to leave. This is not a hippy commune, everybody comes to work it their own project but we expect that they help each other. Things emerge in a very natural way but we spend 60 to 90 minutes to explain very well what is this about. (Interview with manager of space C)

In other cases, the selection process is natural, as the newcomers not fitting in the “atmosphere” of the space will tend to leave and go to another space:

People identify themselves with [our space] community. There are people that do not fit and just leave. Many say they are part of [our space]. We knew from the start that the value is in the people, in the community [...] All what we do is to promote our people, events, etc. (Interview with manager of space E)

Spaces focusing on the creation of a highly creative and collaborative community might not be interested in any kind of coworkers, especially coworkers that are looking for a cost-related type of collaboration. As a manager states:

The people that interest us know already what is coworking. They are not a profile caused by the crisis. They are not here because it is cheap. We do not have the profile of people coming because of the crisis. In the first place, if you have that profile, we don't accept you.[...] To be accepted, you have to show us that you are an entrepreneur, that you have an open mind. All these are intangibles, but is is what it counts. You might be 25 or 50 years old. I know the guys that the community will like, and I tell them directly: “You are in”. (Interview with manager of space N)

Some other spaces, the specialization has emerged progressively. In some cases, the focus on a certain field has been present since the beginning but has been incrementally implemented, as ir is the case of space L where the type of collaboration is also changing together with the increasing importance of the specific focus:

They start sharing projects. There is people very good at organizing events, others designing websites, others at branding, others in advertising. Rather than a thematic collaboration around social impact, they are doing a functional collaboration. [...] In the last months, some people get together, even to go and visit a potential customer. So far, it is at this level and not at the level of sharing a supra-cause, a supra-project. (Interview with manager of space L)

Transmitting an inspiring vision

Some of the managers of these coworking spaces that focus on developing highly collaborative

communities, envision what they would like their community to become. They transmit passion when describing their vision, as in the case of space E and N.

In the case of space E that focuses on creativity and the maker movement, the manager said:

Mi objective is to make maker-ville. [...] It is a very different vision [than the one from the city hall]. It is like, for instance, in a classroom a teacher gives you a work to do, as a test, and you just do it without excitement, you have to do it, you do it. But if you let the children play with Lego, they come to you with big eyes, with an incredible motivation, that is the difference between makerspaces and something that the city hall does. (Interview with manager of space E)

In the case of space N, the manager referred to creating a lifestyle or even a religion:

The objective is that in ten years, [our coworking space name] is a lifestyle. What I want is that with all of us, we create a religion. Coworking is the social side. Is more than a club. (Interview with manager of space N)

Empowering the community

In the coworking spaces focusing on the development of the collective creativity and collaboration of the community, the managers empower the community by transmitting their full confidence on the outcomes of collaboration. In this way, community members take ownership of the space and consequently reinforce their feeling of membership and collective identity. As a manager explains:

We want to be deliberately always in beta, in constant evolution. We never close it in order to keep people shaping it. In this way, it fosters collaboration and the generation of new things. Things happen here. If you come and everything is very nice, you like it but you don't take ownership. It is like when you go to a fancy hotel, you like it [...] but it is not yours. Here it is just the contrary. You might come to this place and not like it, but there is the possibility for you to change it. Everything here is done by us, the community. There is an identity and this is real. Basically, because we work with a very beautiful and eternal concept: freedom. When you give freedom to people, things happen. This works like a container. Things don't happen otherwise. (Interview with manager of space N)

Even if spaces are businesses, the community can have access to information that in traditional organizational forms would be limited to managers. For example, in space N, all financial information is available to community members:

Another thing that the community likes is transparency. All information about our finances is open and available to all members. Everybody can see how much we spend, in which concepts, etc. [...] All the relevant information is there: incomes forecast, incomes from events, ... (Interview with manager of space N)

Managers might guide the collective action of the community but the evolution of the community is completely dependent on itself.

What we do is to trust bottom-up rather than top-down processes. [...] Bottom up processes are started without knowing how they are going to end up. You cannot control them, by definition. When we organize workshops and these dynamics, we state very clearly that we can manage

the process but not the content. The content is created and is accepted by the ones participating in the process. [...] We designate a representative of the content that is who interacts with the other entities to find common themes and another person takes care of the process, without intervening in the content, to avoid mixing things. (Interview with manager of space L)

Space managers, beyond organizing activities and events, aim to inspire creativity and provoke collaborative action. To facilitate social interaction, some of them have a coffee shop or bar in the hall. In space E, dedicated to creativity and the maker culture, there is a “fabcafe”, where members and visitors can have a coffee while using the 3D printer or the laser cutter. The manager explains the rationale of the fabcafe:

In the fabcafe we want to get a laser cutter for people to start getting used to this kind of things. What we offer is access to the machine, access to the people, access to knowledge, to the public. Everything is very horizontal, about sharing and very collaborative. [...] A place like this is necessary, to have a 3D printer to inspire. If somebody comes without knowing what 3D printing is but sees another person working with that, he/she would think: “I can also do a similar thing”. It inspires to do things. (Interview with manager of space E)

In another coworking space, some coworkers decided to organize a challenge together with the management to ignite the community creativity. Coworkers managed to code an app in a week-end just driven by the intrinsic motivation of collaborating with the other members:

This app was done by the community in 36 hours. We wanted to do a hackathon in 36 hours [...] The idea was to do something where everybody could participate [...] Two members came to me and asked me: “we want to do a hackathon but not only for developers. Can we do this?”. “Of course, whenever you want.”. Literally, we [the managers] did nothing. There was nobody from us [our staff]. I came for a while as a member. Most of the members have the keys of the building. I helped to do the video. We just wanted to do something together. [...] It was much more than we could ever imagine. This is coworking, this is coworking. They all are mega talented here and everybody was working together just like this, for the pure pleasure of doing it. It was done in 36 hours and uploaded on the Appstore. A guy calculated that to do that same app in a firm would have taken 5 or 6 months and cost about 100,000 Euros considering the senior expertise involved. (Interview with manager of space N)

As the above example shows, the collaborative communities that emerge in some coworking spaces represent a source of creativity and innovation that in some cases might be able to outcompete in time, cost and quality developments in traditional organizational structures. A proof of the interest of firms in the collaborative capacity of such communities attracts firms and brands that want to be associated with such community for marketing reasons, to identify and hire talent, or to propose the community to work with them on an innovative project. Some spaces organize sponsored events, as a manager explains:

Where is the business? In the events. [Global German firm] comes and spends 15,000 Euros per event. What does [global German telecoms firm] want? To clean their souls. And they come here. What does [beer company]? When they come to meet us, we tell them: don't give me free beer [...] Give me another thing. This attitude generates another relationship with brands. [...] We don't do collaborations with brands like “Give me your product for free”. [...] The deal is “Let's do something together”. For instance, with the [beer company], we did an

event on the rooftop, but we did it our way. “You are going to benefit from it, but we will not put your logo”. A win-win agreement. There are a thousand ways of doing these things. (Interview with manager of space N)

In spaces promoting a highly collaborative communities, the business model is also different from other coworking spaces. The competition is not based on attracting coworkers rather than attracting brands.

We do not compete with [space N] for the coworkers, but we compete for the brands. The same brands, big firms, Microsoft, Google, Etsy,... there is a handful at a global level and we all want them. In theory, we have to collaborate in everything. Actually, we collaborate more with [space N partners] in Berlin that with [Space N] in Barcelona. (Interview with manager of space E)

In this sense, having a collaborative community is not the goal but the aim to be innovative.

The community, the community. I have analyzed it a lot. We have stop participating in talks about coworking, because I am tired of hearing about the community. Obviously it is the community. The secret, the key point, it is the community. But it is not to have a cool community. It is all that is surrounding the community that makes the community to be cool. It is not because the smartest guys are here and the best things happen. No. The [space management] team is very important. We are 5 staff members here, with an event manager. In Berlin, they are 18. (Interview with manager of space N)

The interrelation between spaces and collaboration approaches

Our study on inter-organizational collaboration demonstrates that there are different approaches to collaboration. In our research, we have identified three distinguished collaboration logics.

In this section, we discuss how these three collaboration approaches imply three types of coworking spaces, with distinctive collaborative practices and strategies. Table 1 represents the different coworking spaces included in this research according to the different collaboration approaches.

	Cost-related collaboration	Resource-based collaboration	Relational collaboration
Studied coworking spaces codes	D, I, J, K, and M	A, B, C, F, G, H, P, Q, R, S, and U	E, L, N , T, and V
Physical spaces dimensions	Small-sized spaces (70 – 200 m ²)	Medium-sized spaces (150 – 400 m ²)	Large spaces (>1000 m ²)
Specific assets	Access to privileged location or specific assets	Specific assets (specialization)	Possibility of specific assets (i.e. makerspaces)
Space description	Office with tables and chairs	Mainly office space with some multi-use space (for meetings and training)	Open space. Large multi-use spaces (for events). Also office spaces.
Community size	Small communities	Medium communities	Large communities

	(5-15 members)	(50-60 members)	(100-150 members)
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Table 1 – The spatial dimension of collaboration in the different coworking spaces

In the case of cost-related collaboration, agents collaborate driven by self-interest, searching to reduce their operational costs or the transaction costs of collaboration. In the resource-bases collaboration approach, agents focus on integrating new resources in order to learn or combine them. In the relational collaboration approach, the focus is not on the resources that individual agents share in the collaborative practices, nor the sum of the resources of all collaborating agents. In the relational approach, collaboration is rather based on the synergistic effect of collaboration. In this case, the locus of innovation is the community and not the individuals collaborating.

The three collaboration logics have been identified in the different practices in the coworking spaces in Barcelona. The three logics can be differentiated but can however take place simultaneously in a same coworking space. Nevertheless, each logic is based on different premises and assumptions, and the combination of different logics in a same space might lead to an inconsistent collaborative atmosphere. For instance, in the case of space N, their focus on relational collaboration caused that potential coworkers looking exclusively for a low-cost coworking space were not interested in joining that community. In the case of space L, they were experiencing a transition from cost-related collaboration to relational collaboration. In this case, the former help them to attract coworkers in a short time interested by the central location and the later was intentionally implemented by the management to progressively focus their activities on social economy.

These two examples illustrates an important point: independently of the collaboration type that a coworking space is interested in implementing, its success depends not only on the will and strategy of the management team but also (and more importantly) on the will and actions of the members of the coworking space. As we have shown in our study, members that will not feel comfortable working in a coworking space, will generally leave to go and check other spaces until they find a space that fulfill their needs (and it is aligned in their collaboration approach). In the same way, managers of some coworking spaces follow a selection process to ensure that all members agree in their collaboration approach. Either in an organic or in an intentional manner, each space will tend to converge in a type pf collaboration. This convergence is not only conceptual and cognitive based on shared values and beliefs but has also a direct effect on the practices and on the physical space itself.

In relation with the collaborative practices, the implementation of a cost-based collaboration approach will tend to optimize the costs for the agents that are collaborating. In this kind of spaces, few events, courses or activities are organized. Managers tend to manage exclusively the daily operations of the space, and do not engage in community building or dynamization. In opposition, managers of coworking spaces centered in implementing a resource-based type of collaboration, facilitate collaboration by engaging in community building. They organize internal meetings and events open to the general public, detecting their members’ needs and coaching them, looking for complementarities among members, organizing courses and social activities, etc. In addition to these kinds of activities, in relational collaboration spaces, the community engage in collaborative activities like developing projects, innovative challenges or competitions. The management of such spaces empower the community to freely self-organize, providing the support to the collective development.

Concerning the physical space, the three kind of spaces also differ. Spaces focusing on cost-related collaboration, tend to be in central locations or of strategic interest for specialized companies. Having access to a privileged location at a lower costs incite collaboration in this case. The dimensions of the space tend to be small according to our observations, being standard-size offices or flats relatively common. Spaces focusing on resource-based collaboration underline the professionalism of their services to members and tend to take special care of the design and aspect of their offices. An attractive branding, good quality furniture and professional-looking wide offices are common in this type of

coworking spaces. Spaces focusing in relational collaboration tend to be much larger than the previous two types. These spaces are based on a constant flow of people, doing different activities in different parts of the space. For instance, spaces E, N, and V have bars on the ground floor where coworkers mix with visitors. Both spaces E and N combine large rooms for standard coworking (with tables and chairs) and large spaces used as makerspaces of at least 500 m². On average this kind of spaces are about 1500-2000 m². According to a manager, the reason is that they need to be able to do several different kinds of activities simultaneously: coworking, working in the makerspace, relaxing in chill-out zones, participating to events, courses, meetings, etc. In space N, a whole floor has even been transformed as a dormitory, where coworkers can take a nap during a team work marathon.

Discussion

Table 1 summarizes our arguments.

	Cost-related collaboration	Resource-based collaboration	Relational collaboration
Theoretical approach	Transaction cost economics	Knowledge-based view, resource-based view	Relational view
STRUCTURAL DIMENSION			
Network focus	Space internal network	Internal and external network	Internal and external network
Network size	Small networks	Medium networks	Large networks
Network ties	Dyadic social ties, social daily interaction	Social and professional ties. Some strong dyadic ties and within cliques.	Multiple weak ties in distributed network
COGNITIVE DIMENSION			
Specialization	No specialization or specialization around specific physical assets	Narrow specialization (i.e. communication, web design, photography, architecture, etc.)	Broad specialization (i.e. social innovation, creativity, innovation, etc.)
Shared goals	No collectively shared goals; each member works on his/her own projects	No collectively shared goals. Members collaborate in projects to accomplish their own personal goals	Collectively shared goals, although members also work on their personal goals.
Shared culture	No shared culture	Weak shared culture	Strong shared culture
Relational Trust	Dyadic trust	Dyadic trust and trust developed in small groups	Collective shared trust
SUPPORT AND COLLABORATION ACTIVITIES			
Collaborative focus	Absence	Exploitation. Coordinate and integrate existing knowledge	Exploration. Create new knowledge
Knowledge sharing activities	Absence of activities	Internal (training, coaching, community building) and external (events)	Internal (competitions, collective projects) and external (events)
Individual support	Provided by informal social interaction. No specific action from managers.	Managers actively coach and support members. Internal community activities.	Provided collectively by the community. Managers support members collectively rather than individually.
Type of collaboration	Some dyadic functional collaborations.	Dyadic and small group collaboration	Intensive collaboration at the community level

Management approach	No specific action. Ensure a good social and working atmosphere	Support individually the members. Foster collaboration and community building.	Support, empower, motivate, inspire, provoke and challenge the community
Members approach	Focus on own projects. Few collaborations.	Collaborate to reach individual goals	Collaborate to reach collective and individual goals.

Table 1 – Characteristics of the different types of collaborative approaches in coworking spaces

In cost-related collaboration, agents are motivated to cooperate to reduce two types of costs. Firstly, by sharing operational costs and secondly, by reducing the transaction costs by sharing specific assets. Regarding operational costs, agents might be pushed to collaborate to reduce their overall operational costs like, for instance, electricity bills, commodities, office rent, etc. Situations of financial crisis, lack of funding (i.e. new startups) or budget reductions might be at the origin of this kind of collaboration. Regarding transaction costs, collaboration allow agents to reduce the transaction costs related to the three asset specificity identified by Williamson (1985)□: (1) site specificity, (2) physical asset specificity, and (3) human asset specific. First, on the one hand, agents collaborate to have access to a privileged location (i.e. an expensive office in the city center). On the other hand, the physical proximity facilitates face-to-face interaction and collaboration. Second, agents needing specific (expensive) physical assets like specialized machinery or tools, might be motivated to collaborate to reduce not only the operational costs but also the related transaction costs. Dyer (1997) empirically found that agents that collaborate and invest in specific assets reduce their transaction costs. Third, in this case where agents collaborate to specialize, human co-specialization will also reduce the transaction costs as communication will be facilitated. In short, by sharing a space and assets, agents reduce the transaction costs linked to search for information, contracting, monitoring, and enforcement (Hennart, 1993; North, 1990; Williamson, 1985)□.

In resource-based collaboration, agents are motivated to collaborate to engage in knowledge sharing. Motives can be to 1) learn and improve their own skills, capabilities and resources, or 2) with the aim of collaborating to have access to complementary resources that they lack. The first approach related to the learning perspective on the resource-based approach (Inkpen & Crossan, 1995; Kale et al., 2000; Larsson et al., 1998; Mowery et al., 1998; Simonin, 1997)□ and the second to the resource-access approach (Grant & Baden-Fuller, 1995, 2004)□. These two reasons imply different kinds of activities: learning activities can mean participation in training courses, or getting professional coaching services. Searching, identifying and combining external resources might push agents to engage in activities such as networking, participating to social events or contracting services to search for agents with complementary resources. In both cases agents require “absorptive capacity” (Cohen & Levinthal, 1990)□ and a cognitive proximity with the other agents. Environments facilitating different kinds of proximity among the agents (Boschma, 2005)□, like for instance, ensuring a certain common interest, values, or professional specialty, will facilitate collaboration.

In relational collaboration, agents are motivated by the exploration rather than exploitation (March, 1991)□. They are not driven by extrinsic but intrinsic motivation. They engage in collaborative practices in order to create new knowledge and gain new resources. Collaboration do not respond to a previously established strategy of gaining a specific knowledge or resource that they lack, as the explorative character of collaboration leaves the door open to unexpectedness and improvisation. Agents are embedded in the network and identify with the community, to the point to focus more in the success of the collective endeavor rather than in tracking if their degree of contribution was balanced relatively to the other network members or if their contribution would represent knowledge spillovers

that potential free riders could take advantage from.

The three collaborative approaches presented in this article represent different degrees of collaboration regarding different aspects as the implication of agents, trust among agents, and complexity of the relationships. First, cost-related collaboration requires a low investment on social capital, inter-organizational trust, or cognitive proximity to start participating. The organization, structure, and coordination of this type of collaboration do not require strong involvement or even the existence of an agent managing the activities. Second, beyond sharing assets to reduce costs, to engage in a resource-base type of collaboration, agents need to previously get to know the resources they need to complement their own, and to scan the available resources in the collaborative network. In this case, the collaborative activities will greatly benefit from the intervention of an agent dedicated to the process of community building and management that helps agents to identify potential partners with complementary resources. Third, to share assets and costs, learning from others, or having access to external resources is not enough to reach a relational type of collaboration. In this case, agents need to have a cognitive proximity, and the required absorptive capacity to profit from the collective activities.

As we have shown, resource-based collaboration provides ways of integrating different resources and knowledge bases. However, there is a need of “architectural knowledge” (Henderson & Clark, 1990) to be able to successfully integrate diverse knowledge bases. This common knowledge would be also required in the case of relational collaboration to implement complex collaborative endeavors composed of a combination of diverse knowledge bases (Brusoni, Prencipe, & Pavitt, 2001; Brusoni & Prencipe, 2001).

Our results show that the three approaches can be applied progressively even if each of them require different type of implementation. In some cases, the three approaches can be complementary and reinforce each other. For instance, a community might emerge initially motivated by sharing specific assets, in a second step, physical proximity and frequent face-to-face interaction might lead to and evolve in a synergistic and explorative relational collaboration.

Limitations and further research

An important limitation of our study is related to what Yin refers as analytic generalization (Yin, 1984). Other conditions might effect the motivation to collaborate practices among coworkers and the collaborative practices that managers implement. Therefore additional research should conduct more case studies in other contexts to determine if the analytic generalization of these results might be strengthened.

Our study has focused on coworking practices in the city of Barcelona. The current context of the research has been dependent on the current economic conditions of Spain in general and Barcelona in particular. The economic crisis has directly effected the emergence of the coworking effect. It is beyond the analysis of this research to determine to which extend has the economic and social context affected the collaborative practices. Consequently, to generalizability of the current collaborative practices to other geographic and socio-economic contexts is uncertain.

Our study has underlined the important role of managers in the collaborative processes. However, further research would be needed to study the governance aspect of coworking structures. As research has shown, a governance structure that minimizes transaction costs would thereby enhance efficiency (North, 1990; Williamson, 1985). Informal forms of control like social trust are most effective and less costly than formal controls in complex collaborations (Granovetter, 1985; Macaulay, 1963; Uzzi, 1997). Thus, self-enforcing safeguards result in lower transaction costs and a more effective

collaborative endeavors. Our results suggest that aligning the types of inter-organizational transactions with the structures facilitate collaboration, confirming previous studies (Dyer & Singh, 1998)□. Thus further research is needed in order to deepen on the influence of governance structures in coworking spaces.

The three collaborative approaches described in this article have been described try to underline the unique characteristics of each one and the differences between them. However, the three approaches have common traits and overlaps that difficult a clear cut between types of collaboration. For instance, cognitive proximity, as we have shown, is crucial in resource-based on relational collaboration. However, it is also necessary in the case of cost-related collaboration to ensure a long-lasting good work environment in a cost-transaction collaboration approach. Similarly, cost-reduction is not an exclusive characteristic of a cost-related collaboration approach. For instance, coworking spaces focusing on relational collaboration also follow an aggressive campaign to offer low costs to attract coworkers. And coworkers might be influenced by price in all cases. However, in the case of cost-related collaboration, the focus on overall cost reduction is the main (or even the only) motivation to collaborate.

Finally, another limitation of our study derives from the level of the analysis. Innovation processes are composed of an intertwined processes at different scales (Bunnell & Coe, 2001)□. Coworkers are individuals that interact among them in the personal sphere but that at the same time are representatives of their professional status or their (micro)-firm. In the case of coworking, the social and professional aspects of coworkers are intimately related. In other words, interaction of coworkers as individuals that engage in social interaction is difficult to disentangle from the interaction of the economic agent that each coworker embodies when collaborating. This fact confirms the importance of the social capital and social interaction of collaboration (Inkpen & Tsang, 2005)□. Our research has focused on the inter-organizational collaborative approaches. However, the generalization of our results to other organizational contexts with a minor degree of social interaction might be limited. Nevertheless, our results show the importance of the face-to-face interaction and the co-location in order to nurture successful collaborative relationships.

Conclusion

This article studies the inter-organizational collaboration in coworking spaces. In this localized spaces, entrepreneurs, expatriates, freelancers and other self-employed professionals work and interact. Co-location and frequent and constant face-to-face interactions facilitate collaboration. We have identified three different approaches to collaboration: 1) cost-related collaboration, 2) resource-based collaboration, and 3) relational collaboration. Our results lead us to the some important contributions to the literature on inter-organizational collaboration. First, each coworking space tends to focus on one kind of collaboration type, even if the other types of collaboration can take a minor role. Second, the order of the approaches corresponds to an incremental engagement of actors involved and the complexity of the collaboration. Cost-related collaboration can be based in mere contractual transactions while a relational collaboration requires a fertile soil of social trust, intense engagement from all agents driven by a strong (intrinsic) motivation. Third, the type of collaboration is related with the characteristics of the physical space where the collaboration takes place (surface, distribution, etc). The type of collaboration follows the space characteristic (i.e. an exclusive central location leads to cost-related collaboration) and *viceversa* (i.e. relational collaboration needs large spaces were diverse simultaneous activities take place). Fourth, the type of collaboration implemented depends on the purpose of both the coworking space managers and the community. Fifth, a collaborative community might emerge (or not) depending, in part, on the (different types of) proximity among coworkers.

Focusing around a specialization or theme while maintaining a diversity in the approaches strengthens the identification with the community. Specialization might be a result of a purposeful selection of coworkers or a consequence of the natural selection through the flow of coworkers. Sixth, coworking spaces managers have a leading role in the implementation of the collaborative approach, by organizing collaborative activities (social events, coaching, training, etc.) and empowering the community to freely evolve. Despite the crucial influence of space managers, only the active engagement of coworkers can ensure a fruitful collaboration.

These results contribute to the literature on inter-organizational collaboration by offering some clues about how the physical environment and the action of the space and community managers can influence positively the collaborative practices among economic actors.

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