

Collective Competence and Social Capital Analysis in Collaborative Networks

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ABSTRACT

The present paper addresses the issue of collective competence and social capital analysis for collaborative networks. The objective of the project is to understand how collaborative networks can be influenced considering the perspective of social capital and core competences. In this model we defend the emphasis on endogenous resources, once the technology is, in a general way, accessible to most of the companies and, therefore will not be a long term competitive advantage. The model shows that collaborative networks will be more competitive and successful if they invest in to core elements that are: organizational culture and people. Therefore, the model contributes for the researches in socio-organizational filed and provides a tool to evaluate collaborative networks.

Keywords: collaborative networks, social capital, collective competences, theoretical model.

1. INTRODUCTION

Working cooperatively allows access to new markets, develops efficient business processes in organizations, shares and reduces risks, complements skills and probably, achieves an efficient exchange of information and technology.

One of the emerging forms of cooperation between enterprises is called: collaborative networks (CNs). This kind of collaborative arrangement can be defined as formed of autonomous agents. These agents are also heterogeneous in issues such as culture, goals, environment, competences and social capital. Considering the concept of CNs, it can be said that this form of cooperation among companies stems from the common belief that together is possible to achieve the goals that are more difficult to achieve individually or unattainable.

As the understanding of collaborative networks demands a multidisciplinary view, this work has focused on the collective competences and its relationship with the some social capital elements. The assessment of social capital within a network can generate a significant improvement along the CN life cycle business processes.

Nowadays, competences network are not limited to the company's fences. Organizations use technology to work at a

distance, sharing knowledge and combining specific competences. The network competitive advantage is in to combine production technology, individual and collective knowledge, financial assets, manufacturing secrets, information systems and communication. Normally, these idiosyncratic elements combined generate unique effect, collective competence, which is invisible to the competitors and so difficult to be replicated.

The social capital differentiates itself from other forms of capital primarily for two aspects. The first is that, unlike financial capital, it grows with its use. The second is that when not practiced or not used the social capital tends to decrease. This type of social capital may appear in several forms such as language, goals, values, shared narratives, friendship, trust, obligations and expectations, norms of reciprocity, sense of gratitude, strong and weak ties within the network of relationships.

This paper aims to discuss the role of collective competence in collaborative networks. We developed a theoretical model for assessing the collective competence and social capital elements in a collaborative environment.

2. COLLABORATIVE NETWORKS

The concept of network is not new, but its use nowadays, has been influenced by global changes, in politics, society, and economics. Some strong arguments may explain the dissemination of the use of networks concept. In an economical perspective, a network may constitute an answer to challenges for the organizations because of the intense competition caused by a globalized economy. In a political perspective, a network seems to constitute an answer to the fiscal crisis and to the erosion of the contemporaneous Government supremacy [1].

Among the various types of networks, a special relevance is given to CNs. The concept of CN has become stronger in recent years within the academic and industrial areas. It constitutes an effort to bring about and modernize the traditional concept of cooperation networks among companies. A CN is constituted by several entities (e.g., organizations and people) that are autonomous, geographically distributed, and heterogeneous in terms of their: operating environment, culture, social capital, and goals. These entities collaborate to achieve common goals,

and their interactions are supported by a computer network. Unlike other networks, in CN collaboration is an intentional property that derives from the shared belief that along with the network members could achieve goals that would not be possible or would have a higher cost if attempted by them individually [2].

Network governance involves "a select, persistent and structured set of autonomous firms (as well as non-profit agencies) engaged in creating products or services based on implicit and open-ended contracts to adapt to environmental contingencies and to coordinate and safeguard exchanges. These contracts are socially, not legally, binding [3].

The mutual trust among organizations is the point of leverage in the system where the actions must be focused in order to produce the desired results. Trust also reduces the risk perception of members of the network. The development of strategic actions in a network of organizations therefore, depends on the existence of extensive relationship based on trust [4].

A low confidence level requires formal control, while a high level of trust allows reducing the control. Because of this, within the concept of governance networks, the study of mechanisms of management is essential. One of the main mechanisms for network management is the horizontalisation that has been a way to allow the flexibility of a network [5].

The degree of network governance is given by a set of features that provide information about the organization's internal network and indicate in which points the network demands a form of action or interaction differentiated [5]. A structural analysis of the network enables the measurement of degrees of connectivity (cohesion, density, degree of centrality) among the nodes of the network [3].

The creation and consolidation of social capital within CNs has consequences for the action [6] [7]. The first consequence is that the social capital increases the efficiency of work - high levels of trust reduce the opportunistic behavior and the transaction cost [7].

Another consequence is related to the encouragement of cooperative behavior [7]. The concept of social capital is therefore, crucial to understand the institutional dynamics [6]. The mechanisms of creation and consolidation of social capital in CNs reduces the likelihood of collective sanctions and influence on reputation.

The concept of Social Capital, when measuring the potential of wealth production that flows of the diverse forms of collective association, allows to explore the impacts of the civil society in the economic performance. It is possible to identify four main ways that Social Capital, found in social networks, stimulates the economic growth [8]: (i) high level of social trust and strong reciprocity norms, reduce the transaction costs; (ii) social networks attenuate the risks, allowing that their members engage more in innovations; (iii) social networks facilitate the fast information dissemination and with this, they reduce the asymmetries; (iv) social networks allow that its members resolve easily their collective problems.

3. SOCIAL CAPITAL

The identification of factors capable of stimulating or restricting the formation of interorganizational networks is related to the

peculiar characteristics of individuals, companies, societies and cultures involved. This means that although result in other situations may serve as the basis for the understanding of a particular case. These results should be always contextualized to the reality in which they are being applied.

The concept of Social Capital has gained interest in the scientific community in significant variety of disciplines. Elements as: trust, networks of relationship and share of norms, are topics that are being discussed by researchers of different areas.

The notoriety of the concept came from the publication of the book of Robert Putnam, in 1993, entitled "Making Democracy Work: civic traditions in modern Italy". In this work, Putnam relates the results of a study of over twenty years study about the Italian society, in which the initial topic was to understand the differences of the development of north and south Italy. The author concluded that the disparities between institutional performance and development of the regions are resulting of a mayor presence of Social Capital (in case of the north of the country). The authors' conclusions had fortress impact in the scientific community and were corroborated by other studies [9] [10] [11] [12] [13].

The central proposition of the theory of social capital is that the networks of relationships constitute a valuable resource for the conduct of social issues, providing collective capital to the network members. Much of this social capital is embedded in networks of knowledge and mutual recognition, which bring up feelings of gratitude, respect and friendship, but can also bring up in the form of social status or reputation, specially among members of a specific network [14].

The most important studies on social capital adopt in general two different approaches. One defines that the social capital is a collective benefit [15] [7], while the other classifies social capital as the individual benefits that can be accumulated by a person [14] [16].

Taking into account the approach of collaborative networks it is important to define the role that social capital takes considering the benefits achieved in the network by increasing its competitiveness. Therefore, in this study we defend a hybrid approach, which takes into account both the role of collective capital, as the individual gains.

The focus of Bourdieu's approach [14] is to understand how different forms of capital - economic, cultural and social - influence patterns of power and social status. The author argues that social capital is the current or potential resources, related to a long term recognition relationship network (more or less institutionalized). Thus, the concept is more related to individual and class benefits from the personal relationships and socially shared values. In this point of view, the social capital is considered a property of the individual, since it provides, in essence, individual benefits. The social capital is, thus, an element, which the actors use to maintain or enhance their status and their power in society. [14].

Coleman has a utilitarian approach of the social capital, asserting that, as well as other forms of capital, it is productive, it makes it possible to achieve certain purposes that would not otherwise be achieved. To this author, social capital consists of all elements of the social structure fulfilling the function of serving as a resource to individual actors to achieve their goals and satisfy their interests [15].

Putnam [7] follows Coleman [15] definition when he defends that voluntary cooperation is easier in a community that has inherited a good stock of social capital in the form of rules of reciprocity and civic participation systems. The social rules are useful because they transfer of an actor to another the right to control an action that can have consequences, positive or negative. These rules are sustained by both socialization and sanctions. The most important are the rules of reciprocity, which can be specific, involving the simultaneous exchange of items of equal value [7].

For Nahapiet and Ghoshal [6] social capital is the “sum of the actual and potential resources embedded within, available through and derived from the network of relationship possessed by an individual or social unit”.

This definition of social capital is suitable for our study since it unifies the two approaches view of social capital and brings into account the power issue, not restricting the analysis to horizontal relationships.

In the study of Social Capital and its importance in the creation of intellectual capital, Nahapiet and Ghoshal [6] proposed three Social Capital dimensions, which are: *structural*, *relational* and *cognitive*. Although, the authors have understood analytically the Social Capital in dimensions, they point that a great part of the characteristics studied are highly related, what does not disable the classification, therefore facilitates the construct comprehension.

In the structural dimension of Social Capital are analyzed: the presence or not of relationships between the actors, the configuration or morphology of the network, describing the standards of connections, through variables as density, connectivity network configuration, stability and ties [15].

The relational dimension describes the kind of personal relationship, developed through a history of interactions [17]. This concept focuses on aspects that influence the behaviors, like: respect and friendship, which are going to decide to sociability, acceptance and prestige. Two actors can occupy similar positions in a network, however if their emotional and personal attitudes differ, their actions will be different in many aspects; therefore is related to a behavioral component, which is revealed through facets as trust and distrust [9] [7] [18], norms [15] [7], obligations and expectations [15] [17] participation and diversity tolerance [6].

The third dimension of Social Capital: cognitive, refers to the resources that emanate shared visions, interpretations and systems of meaning, mainly codes and narratives shared, values and other cultural elements. Some authors affirm that this dimension is not being explored in the literature [6].

In order to understand the connections between social capital and collaborative network governance, we must therefore understand different forms of social capital. Recent studies distinguish “bonding”, “bridging” and “linking” social capital [12].

The bonding social capital is characterized by strong relations of mutual aid in the local context and high levels of participation, which results in dense multi-functional ties and strong but localized trust. This type of social capital “is characterized by happening among people in some way “likely” - it generates empowerment within horizontal networks of equals [12].

However, this mutual support can be limited to people who are inserted into the network and can not be extended to other networks or groups. Moreover, the bridging social capital is developed among different groups of actors - in this case, from different networks - and it serves to expand the skills and network resources, that is not accessible in other ways [12].

The linking social capital considers relations of unequal power. This type of social capital is specially important for this study, because it allows to unify the collective social capital with the individual social capital views.

We emphasize that the issue of social capital in the CN context is lack explored. Although the word “trust” appears most of the time, it is related as an isolated concept and not as an element of social capital [19].

4. LINKING COLLECTIVE COMPETENCES AND SOCIAL CAPITAL IN COLLABORATIVE NETWORKS

Collective competences emerge from cooperation and synergy. The starting points are the individual competences, which in a suitable context, when combined, result in collective competences. Le Boterf emphasizes that these competences are network competences, based in a group of people that cooperate to reach a goal. In this case, there is a technical solidarity, even if “network authors” would be distant geographically [20].

Collective competences are constituted by: (i) to know how to build a common representation to operational problems and the goal to be achieved; (ii) to establish a common operative language that represents the capacity do communicate inside the network; and (iii) to know how to cooperate into a network with different norms, cultures, resources and cognitive procedures [20]

We defend that collective competence is the phenomenon of a group or organization of people’s ability to work towards a common task in a sufficient way. The general constituents of collective competences are: (1) roletaking, (2) gesture, symbols and language, (3) sensemaking, (4) time and space, (5) communion, (6) exchange of meaning, (7) familiarity and (8) unit. These variables explain how the network is formed and led. Hansson argues that sensemaking is the basis for the group performance [21].

There are at least three normative principles to which an activity system (network) must conform if it is to act competently: making collective sense of events in workplace, developing and using a collective knowledge base and developing a sense of interdependency. Boreham says that competences cannot be conceptualized independently of either the culture of the workplace or the learning processes [22].

The global competition is not exactly a threat but an opportunity for agile and dynamic organizations. He sees the organizational skills as: structural and dynamic view of the systemic interaction of four elements: innovation and technology, people, structure and processes, and culture [23].

Organizational competences are dynamic and complex elements that vary with the technological advances and changes in organizational marketing strategies. This dynamic view of competences indicates that organizations must continually change and learn to adapt to the external environment changes. This is important because current competences could become problems tomorrow if the organization keeps inflexible face to

the imperative for change. In other words, the goal is to develop new competences while the current ones still yield good results. In this approach, the goal is to innovate constantly in search of improving organizational performance [24].

Attempting to structure the organizational competence concept, Drejer describes them as composed of four elements that are dynamically inter-related: (i) technology (physical system and tools), (ii) people (the basis of competence development), (iii) organization (formal system of management) and (iv) culture (understood as informal organization) [24].

Despite the lack of consensus about the organizational competence concept and the difficulty of establishing boundaries among the different levels (resources, capabilities, competences) it seems clear that competences building are based on collective perspective and dynamic approach, linked to the dynamic capability concept [24].

The dynamic capacity is the organizational ability to integrate, build and reconfigure internal and external expertise according to the competitive environment changes [25]. To develop dynamic capabilities involves frequent organizational changes and requires large investment in people and organizational flexibility [26].

The following model - Collective competence development in collaborative networks- proposes that network foundation context is fundamental to establish learning patterns and the competence development system. This system converges on collective competences and competitive advantage. However, to keep competitive, the organization has to make a choice: (i) to change, building new dynamic capabilities using its organizational radar and intelligence, or (ii) to stay inflexible face to the need for change.

A collaborative network can use existing sources of social capital in the local context in which it is embedded or can develop them internally. In the first case, the social actors bring to the interior of networks throughout the history of social relationships existing among them, which implies the idea that companies have not only economic reasons - a collaborative network is also driven by knowledge exchanges.

If the networks derived from social relations background, there remains the possibility of accumulating social capital internally. Unlike the conventional forms of capital, social capital grows from its use, that is, the more you use, the more it accumulates. Thus, companies that have activities together, as routines, can generate internally a stock of social capital.

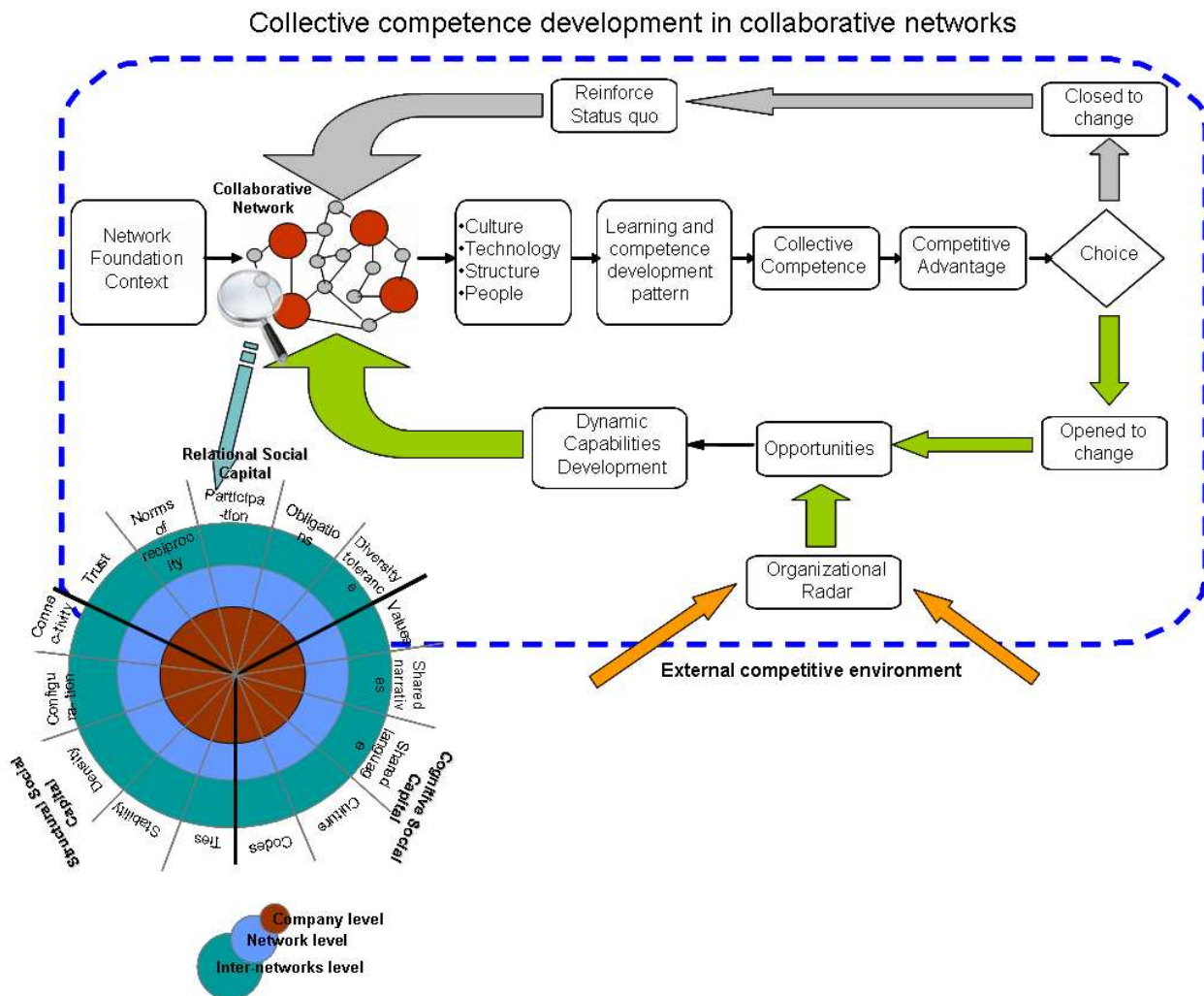


Fig. 1. Collective competence and social capital in a collaborative network. Social Capital diagram are based on [20].

The next step of the research is to test the model in the some Brazilian CNs. We also intend to test the model in other countries to analyze the influence of cultural issues in the network collaborative governance.

5. CONCLUSION

Social Capital is a component of the Social Theory that is being considered as a key-element for the human and economic development of the communities. Some reasons that contribute for the interest in Social Capital are: the value of the social relations in social and economic discussions, the transformations of the society and the role of the State, the importance of network relations to improve economic performances and the necessity of concepts to understand the complexity of human being. The Social Capital can be understood as a set of informal norms and values, common to the members of a specific group, that allow the cooperation among them. Many authors point the difficulty to measure that concept; most of the time it is possible to measure the absence of Social Capital instead of its presence.

Considering Collaborative Networks (CN) it is important to analyze the impact of their development and, consequently, evaluate aspects of their creation, operation, and dissolution. In other words, the exploitation and, even though, the generation of Social Capital are closely related on the programming of the groups qualification (induction) and in which manner the agents manage the network.

The collective competences are important for the competitive edge of the network because they are specific related to the context and therefore they are much more difficult to be imitated by competitors. Thus, the competence found in people or in physical systems is easier to imitate than the competence found in managerial skills or the organizational culture. This is the main point of this research, the belief of the importance of developing strong management structure and culture consistent, hard-to-be copied by competitors.

Considering this, the main objective of this study is to present a model, from our research experiences, which takes the role of social capital and competence development in collaborative networks.

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