

Interorganizational Knowledge Management

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Abstract This article focus on the knowledge management in the interorganizational network scope, since there is a lot of knowledge involved in the interorganizational relationships which can be managed in order to maximize the collective competences. The aim of this research is to conceptualize and discuss the knowledge management in the context of the interorganizational networks. For this a literature review was made to identify plenty of studies related to this theme. The results of the research show that interorganizational network can provide a good place to the knowledge management but there are challenges with regard to the collaborative work that limit the gains in collective processes of knowledge management.

Keywords: knowledge management, interorganizational networks, collaborative learning.

1.1 Introduction

The accelerated process of outsourcing in companies, formerly integrated in a vertical position, has been creating growing extensions in supply chains and networks which demand advanced inter-organizational management systems. One good example of this effectiveness is the knowledge management.

The concept of knowledge management encompasses the creation of values from the management of intangible actives of organizations through creational processes, sharing and knowledge utilization (SVEIBY, 1998).

Towards the consolidation of an economy based on growing intangible actives such as knowledge and the management of organizational network structures, the main objective of this article is to discuss the knowledge management in an interorganizational network scenario.

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The knowledge management in interorganizational networks has not been explored to its fullest yet. Therefore there is a lack of specific studies about sharing and collective learning (GUO, GUO, 2010; GANZERT, MARTINELLI, 2009; ASPROTH, 2007; LARSSON et al., 1998).

The relevance of this article is explained by the rapid increase in publications about this theme, most of which are based on empirical researches about the difficulties that organizations face in learning through their business interactions (KNIGHT, 2002). The term “network learning” is still being validated and is related to the process of learning through the merging of companies that work in a new organizational dimension.

In the interorganizational network scenario, Cunha (2007) states that theoretical and empirical knowledge are not enough to explain the merging of companies such as clusters, productive agglomerates and company networks as well as their potential to produce profits generated by mutual actions. The author points out that the lack of researches in this area can hinder future competitiveness in regional areas, implying the loss of opportunities created by the new economical, technological and organizational model which values local competencies.

Other important reasons that justify the study of organizational networks are numbered as follows: (1) the emergency of new modalities of competition such as the ones that have been developed in Italian districts (CASAROTTO, PIRES, 2001), in China (CASAROTTO, CUNHA, 2008; SAXENIAN, 2006) and in the Silicon Valley (SAXENIAN, 2006); (2) the resurgence of information and communication technologies (ICTs) which enables improved relationship opportunities among companies (CHI, HOLSAPPLE, 2005); (3) and the consolidation of the network analyses as an academic discipline not only restricted to some sociologic group but expanded to a broad interdisciplinary context of organizational studies (CUNHA, 2007; CASAROTTO, PIRES, 2001).

This article is divided into six sections: first, theme, objective and justifications are presented. The description of the methodological procedures is presented in the second section. The knowledge of economy, the configuration and concepts of interorganizational network procedures are presented in the third section. The fourth section consists of the presentation of the knowledge economy and the configurations and concepts of interorganizational networks. It is followed by the research about the amplification of interorganizational knowledge management. Final considerations and suggestions for future researches are shown in the fifth section. The references found in this article are listed in the sixth section.

1.2 Methodological Procedure

This is an academic research based on a bibliographic method as its main technical procedure. The academic research is an activity performed in universities and

has a pedagogical character once its main objective is to elicit the search for intellectual research in professors, graduation and post-graduation students.

Due to its theoretical content, the technical procedure used in this research is based on the bibliographic research. This line of research is characterized by the utilization of current publications: books, periodic, articles and materials gathered from Internet make part of this type of research.

The first step consisted of the search for indexed scientific articles on databases. After gathering the theoretical material, the problem was fixed and the conceptual basis was developed. Following the conceptual analyses, final considerations were exposed in an attempt to extend the academic knowledge regarding the theme presented in this article.

1.3 The Knowledge of Economy and Interorganizational Networks

Factors related to sustainable environmental, economical and social development, demographic changes, economy globalization, technological advancements, production customization and the knowledge itself have been promoting changes from an industrial society into a knowledge society (NAISBITT, ABURDENE, 1991).

It is believed that the industrial era has come to its end. And the knowledge era can endanger the competitiveness of the companies that refuse facing the new challenges and competitive standards.

Alike the industrial economy, which valued vertical integration, the knowledge economy stimulates the formation of interorganizational alliances and managerial arrangements built inside the networks.

In this regard, Catells (2003), Balestrin and Verschoore (2008), Cunha (2007) and Porter (1998) point out that the competitiveness can dislocate from a unidirectional, individual and endogen process of firms to an open, multidirectional, collaborative and network process.

According to Cunha (2003) there is a wide configuration of cooperation networks among companies and that these companies usually are presented is industrial agglomerations providing better qualification of the structures and groups or agglomerates *modus operandi* of the companies.

Britto (2002) presents conceptual contribution stating that company networks can be referred as organized groups of productive unities partially separated that operate producing growing profits which can be attributed to significant externalities of technical, pecuniary and technological nature, similarly to economies of scales, they present a lower costs which reflects the presence of the effects related to important demands for externalities.

In general, it can be inferred that the network of companies are members of productive agglomeration and of other modalities of merging of companies

(CUNHA, 2007). A synthesis of the concepts used to identify and qualify interorganizational alliance modalities are presented below. It is also observed that the multiplicity of concepts involving interorganizational alliances hinders a clear comprehension of the agglomeration phenomenon of companies. This may lead to problems when its main purpose would be the fixing of active policies of foment and the clear understanding of the phenomenon of agglomeration in real world.

Table 1.1 Company networks, manufacturer agglomeration and SCM: specificities of the concepts.

SPECIFICATION	CHARACTERISTICS AND ADVANTAGES
Industrial agglomerations	Geographic proximity, productive specialization and improvement of static and dynamic competitive advantages.
Italian Industrial Districts	Local business relationships and the strong synergy among all the actors are part of Italian Industrial Districts. Governmental structure, small and medium enterprises as well as work division are included in this classification.
Local Production Systems	The emphasis transcends the economical objectives once they are directed to the sustainable development in a local-regional space, in other words, there is more solidarity.
Innovation Systems	Dynamism is the main approach of innovation systems. The knowledge exchange, with the objective of generating innovation in the inner parts of the agglomerate, emphasizes the learning through the interaction and partnership of business companies with research and university centers.
General Company Networks	The mechanisms of articulation among partner companies and the profits generated by the integration process are highlighted by company networks. There is a strong influence of the types of relationships and the fluxes established under the light of interdependency among the actors.
Flexible Networks	Business relationships are stables and cooperatives. The main objective is to execute the project companies share together. There is a reduction of the uncertainties with respect to the market behavior. The necessity of formal organizations of governance is mandatory.
Production System	Temporality and business relationships are clearly established. Deliberations involving foment of activities with high technology and the existence of socio-cognitive requirements is previously established. The presence of the Estate is demanding and always due to deliberated and non-spontaneous actions, as most examples in industrial agglomerations.
Supply Chain Management (GCS/SCM)	The concept of supply chain management encompasses the integration of several business processes and enterprises which range from original suppliers of inputs and services to final customers. This type of management allows advantages for consumers with regards to product offers, services and information.

Source: Adapted from Cunha (2003).

1.4 The enlargement of Interorganizational Knowledge

Companies have been facing a new scenario where knowledge acquisition must not be protected anymore. The share of current strategies to obtain competitive advantages can be developed in a fast and synergetic way by the union of organizational forces aiming at the construction of collective knowledge (DAVENPORT, PRUSAK, 1998; LARSSON et al., 1998; NONAKA, 2000; CASTELLS, 2003). With this regard it is necessary to act in a cooperative way due to the fact that ideas can cause more impact when shared widely (DAVENPORT, PRUSAK, 1998; LARSSON et al., 1998; CASTELLS, 2003; NONAKA, TAKEUCHI, 1997). Thus, the knowledge management has been directed to the possibilities of open access to a new interorganizational level.

The creation of new knowledge through the sharing of information among companies was presented by Nonaka and Takeuchi (1997) when an ontological dimension of knowledge was first presented. Due to this dimension, knowledge grows from an individual overview through a dynamic interaction (socialization of knowledge) to an organizational level finally reaching an interorganizational stage.

According to Knight (2002) the process of learning can be divided into five levels of development: individual, group level, organizational, dyadic and in an interorganizational network level.

The first level encompasses the individual as a learning agent in a organizational context; in the second level, the group of individuals act as learning agents in a organizational context; the third level of organization is related to the evaluation of cognitive structures and behavioral standards of the organization; the fourth interorganizational level involves organizational learning in a context of group or paired organizations with a business relationship based on cooperation; the fifth level of network called *network learning* refers to the process of learning by a group of organizations as a group. If, through their interaction, a group of firms change the group's behavior or cognitive structures, then it is the group of organizations that is the 'learner', not just the individual organizations within the group. In such a case, the network can be said to have learnt.

The interorganizational learning can be seen as a collective acquisition of knowledge among a group of organizations, and it has its origin in a process of sharing of knowledge revealing itself as a new strategy to the development of capacities which can minimize the exposition of companies to the uncertainties imposed by the environment. It is qualified as a representative dimension of the success reached by organizations (VALENTE; PEDROZO; BEGINS, 2008).

Thus, an organization or an interorganizational network can provide with a positive and constructive relationship space between the actors and the environment (BALESTRIN; VARGAS; FAYARD, 2005). Cunha (2007), Balestrin e Verschoore (2008), Asproth (2007) and others highlight that interorganizational networks, in their interrelated spaces, promote a favorable environment to the

knowledge sharing and collaborative learning, enabling the network to create mechanisms to maintain and reuse the knowledge acquainted by the individuals who belong to it.

Researches made by Sohn et al. (2011) and Cunha et al. (2007) point out to the fact that obstacles can hinder interorganizational knowledge management. Among the difficulties, the authors highlight the construction of a collaborative culture, facing the reality that the sensitization and opening to collaborative work inside a network is not an easy or natural task.

The authors also identify the existence of a blurred overview of the role and importance of knowledge management. In an interorganizational context, this fact limits collective profits interfering in the proper functioning of knowledge management processes.

1.5 Final Considerations

The theorizations lined in this article aim at contributing to an extended approach of knowledge management under a broad and a network point of view.

The theoretic debate presented in this article highlights the fulfillment of its main objective. In the discussion of the results involving the theme knowledge management in the context of interorganizational networks it can be seen that these networks may be presented as prosperous environment for the development of a collaborative learning process and for the practice of knowledge management.

This article presents the concepts of knowledge management in interorganizational networks for the academic community. Other authors such as Balestrin, Vargas and Fayard (2005); Casarotto and Pires (2001); Cunha (2007); Knight (2002); Prange (2009); Smith-Easterby and Lyles (2003); Guo and Guo (2010) (just to cite a few authors) also present their contributions to enlighten the theme of this article.

Future researches are suggested about this theme especially encompassing the description of influences in the individual, group and organizational dimensions in the creation and appropriation of knowledge in different network shapes such as industrial agglomerates constituted by small and medium enterprises and in productive networks and chains with clear dominance of big enterprises.

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