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The Study of Effectiveness of Social Capital, Organizational Capital and Knowledge on Entrepreneurship

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Abstract

In this research, we studied the effectiveness of internal and external social capital and organizational capital (two subcategories of intellectual capital) and also different types of presented knowledge in the organization, by counting tacitness or explicitness or even complexity, on entrepreneurship and innovation of firms. The result of study shows that social capital (inside organizational and outside organizational) have positive effect on innovation and organizational capital also by having positive effect on social capital have indirect effect on innovation. Also, the effect of knowledge tacitness exists under social capital high level conditions, and it shows the positive relation with fundamental innovations. Knowledge complexity also applies positive effect on radical innovations.

Keywords: social capital, organizational capital, knowledge tacitness, knowledge complexity, innovation

Introduction

Nowadays, companies for remaining in competition and business stage must be able to response to the highly changeable needs of customers. Organizations must be able to achieve required knowledge for innovation in their productions and improvement in their processes, to spread it among their personnel, and use it in all of their daily activities. It is only by this method that they can response to the requirements of competitive environment and highly changeable needs of customers (Alvani, 2007). Fundamental changes in regulation, global competition, and technology make it increasingly difficult for firms to compete successfully. Across different industries, firms are increasingly reliant on external collaboration in securing competitive advantage and enhancing their innovative capabilities (Luno, 2011).

Thus, one of the most important properties of firms in this age and from the effective factors on firm innovation capacitance is intellectual capital that it must be well recognized and be applied impressively. Three subcategories of intellectual capital may be considered: human capital, organizational capital and social capital (Lavado, 2010).

For success and forming entrepreneurship activities except active presence in the society and recognition of suitable opportunities, existence of science and updated and efficient information as a capital is also counted as inevitable principles. This capital similar to the way that researchers categorized, included: human, intellectual, social, physical , ... capitals that all together as a conjugated system are trying besides creation of knowledge and information as a competitive advantage to valorize by operating it in the way of resolving other person's requirement. Thus, the relation between entrepreneur and reminded capitals is a multiple form and the relation between entrepreneurship and social and intellectual capitals have a special importance, because by social networks in this age that named communication and information age other capitals would improve and via these capitals entrepreneur activities would be meaningful. On the other hand, entrepreneurship also partakes on development of different shapes of capital (Nahid, 2011).

Human capital entitled to knowledge and abilities of personnel that belong to a firm; but only a simple community of peoples cannot redound to achieve a competitive advantage and success in the

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market, but existence of other aspects of intellectual capital is needed.

Organizational capital is equivalent to organizational memory, referred to organizational knowledge about how to do things, and stored in the form of standard operating procedures, routines and scripts. This organizational knowledge can be tacit, explicit or complex that each of this disparate knowledge has a different effect on innovation ability of firm (Lavado, 2010).

And finally, the third subset is social capital that appears as a result of collaboration and interaction among those people who share their ideas. In this sense, social capital can be defined as resources generated by interpersonal networks which are, therefore, embedded and available within them (Lavado, 2010). Social relations inside the social capital in world's great industries can result in creativity, making ideas, innovative behaviors facilitation and risk taking and industry growth that they also counted as organizational entrepreneurship indexes (Jaafarian, 2009).

To wit, social capital is a set of values and informal norms and embedded commitments that members of a group are partaken on it and it shows the interpersonal relation of persons that can be the source and offspring of positive consequences and results.

According to these authors, whereas human capital may come in and leave the organization, depending on hiring, mobility and turnover, organizational and social capital may be kept in the organization, regardless the mobility of employees. In (ghilich li, 2006) has been shown that with social capital increment, intellectual capital has been increased on other dimensions. Also, social capital can be introduced as the basis of innovation ability of firms. As innovation is basically considered an effort of collaboration, social capital plays a key role in the development of innovation. Organizational capital may also have a positive effect on innovation, given that knowledge stored can greatly facilitate flows of relevant information among both people and units (Lavado, 2010).

Indeed, knowledge transference among companies provides opportunities for mutual learning and interorganizational cooperation, which stimulate the creation of new knowledge and, at the same time, contribute to the organizational ability to innovate (Luno, 2011).

In this paper we intended to study the effects of internal and external social capital (inside the organization and outside the organization), organizational capital and also tacitness and knowledge complexity on innovation and specially fundamental and radical innovation in organizations; because radical innovation creates production advantage and opportunities for more diversion, and have positive effect on firm operation (Luno, 2011).

In this literature, first, according to theoretical discussions about each of the factors under study, research hypothesizes will be represented and after hypothesizes examination, results and outcomes of the research will be expressed.

Social capital and Innovation

Social capital is in fact the most tacit and consequently, the most difficult to manage and measure (Lavado, 2010). Social capital can be easily defined as existence of a certain set of norms or informal values that members of a group that cooperate and collaborate participate on it (Fokoyama, 2000). Indeed, social capital is a set of straight links between people that develop cooperation for opposite benefits (Vilanova, 2003). From Colman's point of view social capital is whatever that allow people and institutions to act (Colman, 1998).

If we want to define the social capital with relation to organization, we can define it as network structural on basis of informal relation between members of the organization with consideration to the relation between them. Trust makes expectations and bilateral commitments and informal mechanisms that help the members of organization to use it as a tool for better and easier understanding of their aims (Danchev, 2006).

Consequently, according to a number of researcher's opinion, organizational entrepreneurship on basis of organization ability for learning through present knowledge is available. These processes depend on organization intellectual capital and specially human and social capital (Hayton, 2005). Social capital plays a more important role in organizations and societies than physical and human capitals and networks of social and group relations, cause solidarity between humans, organizations with humans, and organizations with organizations. By refusing social capital, other capitals lose their impression. Without social capital, passing development ways, cultural and economic evolutions is difficult and rough (Biker, 2003).

Combination of organizational characteristics and personal characteristics and important events, assembles a base for guiding opportunities and entrepreneurship acts that with help of organizational learning and social capital should result in innovation and this innovation causes improvement in operation and competitive advantage (Jones, 2005). Totally, industries and organizations by recognizing and realizing their social capital dimensions can have better understanding of personal and group cooperation pattern and by using social capitals can better guide their organizational systems like organizational entrepreneurship (Alavi, 2001).

Twomain dimensions of the interorganizational relationships: the structural dimension and the relational dimension. The first one refers to the overall pattern of connections between actors, that is, who you reach and how you reach them (density, connectivity and hierarchy are measures of the structural dimension). The second one describes the kind of personal relationships people develops with each other through a history of interactions (respect, trust and friendship are usual aspects included in this dimension). Social capital approach suggests that factors relevant to the generation of innovation include not only the number of partners and the structure of the network but also the level of commitment, cohesiveness and trust embedded in the interorganizational relationships Even more, the relational dimension could better explain innovation performance , given that innovation mostly depends on the quality of relationships established between the people involved (relational dimension), rather than on the density, connectivity and hierarchy of such relationships (structural dimension) (Luno, 2011). Our research focuses on this relational side of social capital.

Many discussions have been represented about positive effect of internal and external social capital (interpersonal collaborations and departments inside organization and also multiplexing inside organizational knowledge and conversely interorganizational cooperation) on innovation. In (Kaasa, 2009) effect of different dimensions of social capital on innovation has been studied and has been shown that social capital has a positive effect on innovation and so that the effect of different dimensions of social capital on innovation is disparate. In (Landry, 2002) have been stated that to what extent social capital is effective on innovation.

As Subramaniam and Youndt (2005) state, given that innovation is fundamentally a collaborative effort; social capital assumes a key role in generating innovations. Also, Nijssen and Frambach (2000) and Cooper and Kleinschmidt (1991) suggest that the interactions between departments are a determinant factor of new product development. Many researchers (Calantone, Cavusgil, & Zhao, 2002; Hult, 2002; Hult, Hurley, Knight, 2004; Lu&Shyan, 2004; Song&Thieme, 2006) suggest that intra-organizational knowledge sharing (social capital) influences the firm innovativeness as it supports creativity and inspires new knowledge and ideas (Lavado, 2010). In (Kaasa, 2009) also stated that innovate activities considerably depends on distribution and publication of information, especially about technical bases that are so sensitive. Hsieh and Tsai (2007) also suggest that social capital is associated positively with the launch strategy for innovative products (Lavado, 2010).

Most of these arguments rest on the potential of interorganizational collaboration to facilitate knowledge-sharing and interactive learning processes among participating firms. Adler and Kwon (2002) state that the interorganizational network's primary direct benefit involves access to additional sources of information and improved information quality, relevance and timeliness. Also, these links help firms to acquire new skills and knowledge (Luno, 2011).

In order to increase innovation, a firm should focus on the diversity of its contacts, with more contacts by definition increasing the probability of network diversity (Capaldo, 2007). Nevertheless, the number and diversity of connected entities alone do not explain the advantages of interorganizational relationships for innovation or even more for radical innovations (Luno, 2011). According to the stated , following hypothesizes will be expressed:

Hypothesis 1: external social capital has a positive effect on innovation.

Hypothesis 2: social capital has a positive effect on product innovation.

Organizational capital and its effect on innovation

As Youndt (2004) states the dominant assumption about the relationships between social and organizational capital, forecasts a positive effect of the first one on the second. Basically, literature suggests that much of the knowledge individuals create and diffuse through social capital becomes codified and institutionalized in organizational capital (Lavado, 2010).

Nevertheless, we aim to explore the other possible direction of the relationship, that is, the positive effect that organizational capital may have on social capital. Therefore, we propose that the formal integration knowledge process, which represents organizational capital, could help to share new ideas and information at the social level.

Knowledge management research shows strong arguments that imply that knowledge flows can be greatly facilitated if knowledge is codified (Zander & Kogut, 1995; Youndt et al., 2004).Grant (1996) and Huber (1991) state that knowledge integration promotes communication and discussions among people, who are likely to share what they have learnt with others in the firm (Lavado, 2010). Alvani (2007) has stated that existence of social capital in organizational groups affected development of soft knowledge management activities (included transport and knowledge creation activities).

When a company has rich knowledge flows, one could expect a high quality of relationships among the people involved. Such relationships are usually based on friendship, trust and respect, as the relational embeddedness of social capital has been conceptualized (Lavado, 2010).

Hypothesis 3: organizational capital has positive effect on social capital.

Thus, if this Hypothesis accepted, organizational capital will have indirect effect on innovation (by affection on social capital)

Knowledge tacitness, social capital and fundamental innovation

Organizational knowledge has divided to tacit and explicit knowledge. Explicit knowledge is an organized knowledge with a constant content that by using IT can be codified, edited and published. This knowledge idiomatically is placed on top and visible part of icy mountain. Tacit knowledge is personal, recognizable, and depended on context and its place is inside mind, behavior, and conception of people. This knowledge forms the lower level of icy mountain of organizational knowledge sources. Such kind of definitions about organizational knowledge shows human element and interpersonal relations importance in the organization for creation and usage of organizational knowledge (Alvani, 2007).

Purpose of fundamental innovation is to represent a new and radical product. As Johne & Snelson, (1989) state, In fact, previous research have suggested that product modification and updating (old product development) need to be managed differently from the development of completely new products. In this sense, literature links the most formal and explicit aspects of knowledge to incremental innovations, and the most flexible and tacit aspects to higher level of creativity required by radical innovations (Lavado, 2010).

Unmodified knowledge is the root of idea generation (Castiaux, 2007). If idea generation in a particular instance is only the reconfiguration of existing explicit knowledge as applied to products, such idea generation should give rise to incremental innovations (Castiaux, 2007). In contrast, ideas based on tacit knowledge are likely to lead to radical innovations (Nonaka, 1994).

Hypothesis 4: knowledge tacitness has positive effect on fundamental innovation.

According to the definitions that expressed about tacit and explicit knowledge, it can be said that as tacit knowledge included discernment, values, intuition and issues like this and it's not possible to codify, so its transparence especially about external cooperation needs high levels of social capital (specially its relational dimension) and commitment and trust between people.

Hypothesis 5: positive relation of knowledge tacitness and fundamental innovation will be more under high level conditions of external social capital toward its low level conditions.

Knowledge complexity, social capital and radical innovation

Gopalakrishnan et al. (1999) define the complexity of an innovation using three characteristics: its difficulty, its intellectual sophistication, and its originality. Gopalakrishnan and Bierly (2001) and Pelz (1985) associate knowledge complexity with originality, suggesting that knowledge is more difficult to understand when there is uncertainty derived from originality. Such originality will lead to higher levels of novelty. That novelty, if applied to new products, could be translated into radical innovations (Luno, 2011).

Hypothesis 6: knowledge complexity has positive effect on fundamental innovation.

Sampling, tests and results

Study on sample firms has been done (Spanish firms that according to information and researches were among innovator firms) by using collected

data of questionnaires that filled by research and development and marketing managers. Used scales for each element under study have been achieved according to previous studies.

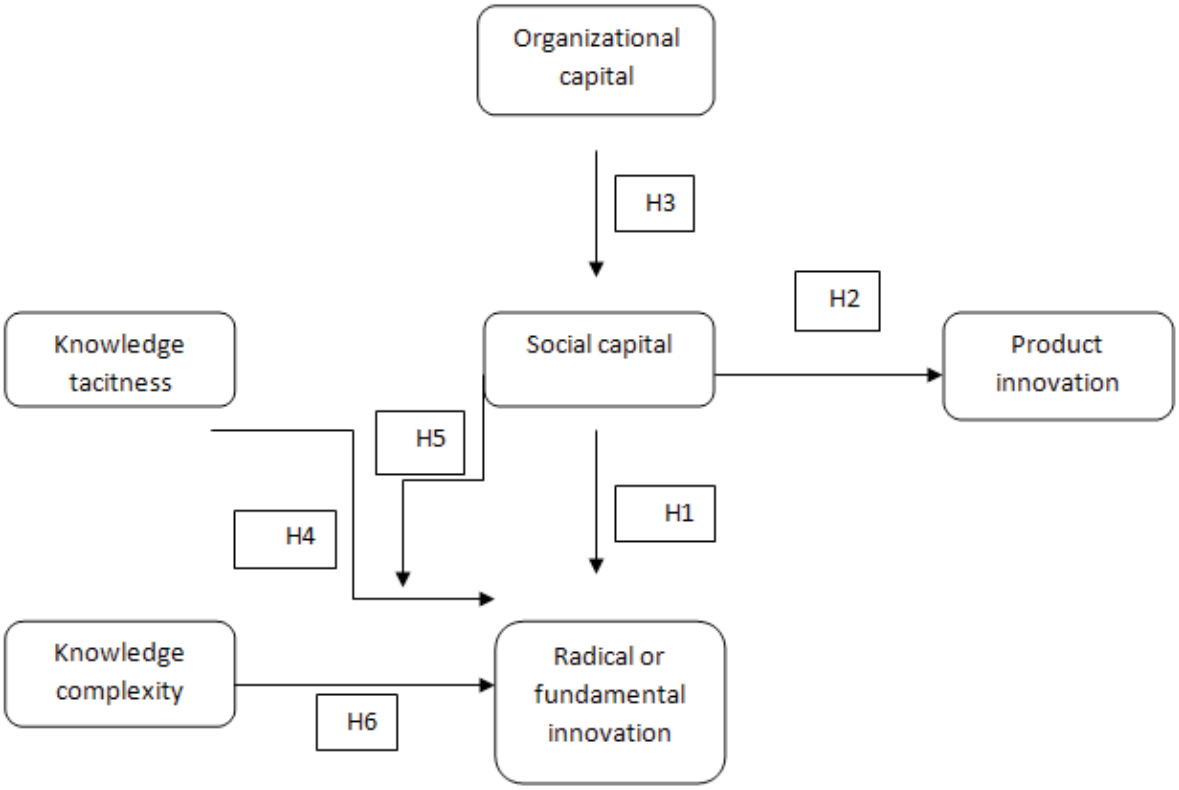

Figure 1. Theoretical and hypothesizes model

Radical innovation: The study includes an adaptation of Gatignon et al.'s (2002) radicalness scale that Govindarajan and Kopalle (2006), among others, use (see Appendix). Knowledge tacitness: The study measures knowledge tacitness by applying the Subramaniam and Venkatraman (2001) scale (see Appendix). Knowledge complexity: The study includes a four-itemscale following proposals by Gopalakrishnan et al. (1999), Subramaniam and Venkatraman (2001); Winter (1987) (see Appendix). Social capital: The study focuses on the external dimension of social capital. The study includes a four-item scale based on the research of Maurer and Ebers (2006); Inkpen and Tsang (2005) to measure the relational side of external social capital (Luno, 2011).

According to accomplished tests hypothesizes 1,2,3,5 and 6 accepted and hypothesis 4 refused.

Discussion and conclusion

Achieved results show that existence of social capital for enhancing innovation ability of firms is effective with no doubt. On the other hand, existence of social capital has an important role on development of entrepreneurship. Organizations that have a high social capital can use their affection on information transportation to develop new ideas and this new ideas caused creativity and this creativity caused innovation and entrepreneurship in organization. This issue with consideration to social capital definition and also innovation is completely perceivable. As mentioned, innovation fundamentally is a cooperative and collaborative issue and so existence of strong relation between people from quality dimension and depth of relations, and also existence of trust and commitment between them for the way of cooperation and collaboration and their protection from each other will be impressive. Organizational capital has an indirect effect on product innovation through positive influence on social capital. Consequently, we could say that the potential value of the institutionalized knowledge — stored in the form of standard oper-

ating procedures, routines and scripts — becomes product innovation just if this knowledge has been extended to the social level and people have the opportunity and willingness to share it (Lavado, 2010). Hypothesis 4, positive effect of knowledge tacitness on innovation refused; but in continuance we realize that fifth hypothesis will be accepted. This means that for tacit knowledge transportation, with consideration to characteristics of this kind of knowledge, existence of relational dimension of social capital is needed. As it was expected, for a high level of social capital, radical innovation increases as knowledge tacitness increases. However, for a low level of social capital, radical innovation decreases as knowledge tacitness increases. That is, if knowledge is codified, social capital may represent a waste of resources and an obstacle to radical innovations (Luno, 2011). With consideration to research perceives, it is obvious that knowledge complexity is a strong determiner of fundamental innovation and the sixth hypothesis also will be accepted.

Table 1: Results of hypothesis testing

	Hypothesizes	Perceived
Hypothesis 1	External social capital has a positive effect on innovation.	Accepted
Hypothesis 2	Social capital has a positive effect on product innovation.	Accepted
Hypothesis 3	Organizational capital has positive effect on social capital.	Accepted
Hypothesis 4	Knowledge tacitness has positive effect on fundamental innovation.	Refused
Hypothesis 5	Positive relation of knowledge tacitness and fundamental innovation will be more under high level conditions of external social capital toward its low level conditions.	Accepted
Hypothesis 6	Knowledge complexity has positive effect on fundamental innovation.	Accepted

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