RELATIONAL NETWORK, ABSORPTION CAPACITY AND ACCESS TO EXTERNAL RESOURCES BY TUNISIAN CONTRACTORS

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Abstract

This paper will try to analyze the impact of relational network characteristics on the absorption capacity and the external resources of contractors. The originality of our approach lies in the choice of the context in which our empirical analysis is applied, and relative to the Tunisian context. In addition, a range of theoretical approaches are integrated that have examined the links between absorption capacity and relational network.

Keywords: Relational network, absorption capacity, external resources, *Tunisia*.

JEL Classification: M12; M14.

1. INTRODUCTION

Many studies have shown the essential role played by personal networks of contractors in the elimination of informational and institutional gaps and in the mobilization of external resources (Lallement and Bevort 2006; Mercklé 2004; Lazega, 1999).

Furthermore, the literature clearly indicates that the social capital or the resources that contractors can access through their personal networks (Adler and Kwon, 2002) allows contractors to identify opportunities (Bhagavatula and al. 2010), mobilize resources (Batjargal, 2003). A branch of this literature has highlighted the network structure (Stam, 2010), while other branches have focused instead on the strength of network ties of contractors (McEvily and Zaheer, 1999) or resources from the various synergies characterizing the network (Batjargal, 2003).

However, in order to realize the gains from "learning feed-forward" (Dutta and Crossan 2005), the knowledge must be successfully transferred from people who possess to the organization as a whole. In addition, knowledge alone is not enough, the company should be able to use and act on the knowledge gained from its environment (Dutta and Crossan, 2005). Information and knowledge held in functional silos do not contribute to the success of the company, because the company in this example lacks the capacity to exploit.

2. CONCEPTUAL FRAMEWORK OF THE ABSORPTION CAPACITY

Zahra and George (2002) characterize the absorption capacity as a dynamic capacity, it is a process at the organization which enables to change and evolve as required by reconfiguring its resources in a way that best meets the current and projected needs. The absorption capacity meets this criterion, since it involves in part the acquisition and assimilation of knowledge. Thus, knowledge enables the organization to adapt and evolve (Forsgren and al 2005, Gunawan and Rose, 2014 ,Zahra and George, 2002).

Some researchers, however, argue that "... the absorption capacity still lacks a solid foundation in the theory ..." (Camisón and Forés 2010, p. 708). To this end, Cohen and Levinthal (1990) offer perhaps the most widely cited definition of absorption capacity, seeing it as the company's ability to develop, acquire and apply new knowledge. In addition, Mowery and Oxley (1995) define the absorption capacity as a broad set of skills to deal with the tacit component of transferring knowledge and the need to change this imported knowledge. It is agreed that the absorption capacity is a multidimensional concept involving the ability to assess, assimilate and apply knowledge (Cohen and Levinthal, 1990) or a combination of bases of effort and knowledge (Mowery and Oxley (1995). With respect to absorption capacity in the transfer of knowledge within the company, Liu (2012) found a relationship between absorption capacity and learning, while Yao, Yang, Fisher, Ma and Fang (2013) found a relationship between effective absorption of knowledge and creation of new products. Szulanski (1996) identifie the lack of absorptive capacity as the main obstacle to the transfer of best practices within the company.

Based on a review of the relevant literature, the absorption capacity can be defined as a set of processes by which firms acquire, assimilate, transform and exploit knowledge to produce a dynamic organizational capacity of four dimensions. Each dimension appears to play a different but complementary role in the relevant organizational results (Zahra and George, 2002). The main interest of this research is the extent to which the absorption capacity helps to produce a significant and valuable advantage for the company.

Many studies published to date agree that the absorption capacity is a multidimensional concept (Cohen and Levinthal, 1990; Lane and Lubatkin 1998; Todorova and Durisin 2007; Xia and Roper, 2008 and Zahra and George, 2002), but set a different number of dimensions with different content. There is no consensus among researchers to determine the number of phases that make up the building to investigate.

Cohen and Levinthal (1990, p. 128) define absorption capacity as "the ability to recognize the value of new information, assimilate it and apply it to commercial use."

The authors establish three dimensions, corresponding to the three capabilities that arise from this definition. The first is the ability to recognize the value of new external knowledge. For effective and creative use of new knowledge by learning business, factors that facilitate the recognition of the value of external knowledge must have both common knowledge bases prior to new knowledge and a part of the knowledge of the company that is completely different. Second, the company must be able to assimilate new external knowledge. Once the company has identified the useful external knowledge, it must determine how to internalize. It will be easier for a company to assimilate the knowledge of another if processing systems of knowledge of both companies are similar. Third, the company must be able to market the new external knowledge.

The subsequent study of Lane and al. (2001) expands and improves considerably the components of the three dimensions, in the framework of international joint ventures. The first dimension, qualified the ability to understand the knowledge, depends on the trust between the parties, cultural compatibility, basic knowledge, and the relationship between the activities of both parties.

The second dimension, the ability to assimilate new knowledge, depends on the flexibility and adaptability, management support, training and official targets and specialization of parties involved in the exchange of knowledge. Finally, the third dimension is the ability to apply external knowledge.

After empirical refinements, Lane and al. (2001) leave open the possibility that the absorption capacity is composed of only two different dimensions. This is the case because their findings lead them to say that the first two components of the ability to understand and ability to assimilate external knowledge are independent and different from the third component, the ability to apply that knowledge. Therefore, the absorption capacity might have two dimensions. These results are supported by Heeley (1997), which take into account only two components, the acquisition of external knowledge and its dissemination to the company.

Zahra and George (2002, p. 198), however, distinguish four dimensions, which coincide with the phases of the absorption capacity. These authors suggest that the absorption capacity "is a set of organizational routines and strategic processes by which firms acquire, assimilate, transform and exploit knowledge for a value creation." Thus, the first dimension is the acquisition. This dimension was initially identified by Cohen and Levinthal (1990) as recognition of the value. Zahra and George (2002) redefined the term, focusing not only on the evaluation of the use of knowledge, but also their transfer from one company to another.

The second dimension is the assimilation. In this phase, the goal of the company is to understand the external knowledge through its own specific routines. To assimilate knowledge and obtain benefits, members of the organization must interpret and understand this knowledge to finally learn.

The third dimension is the transformation. To this end, capacity of transformation is the internalization and conversion of new knowledge acquired and assimilated. It seeks to combine existing knowledge with newly acquired ones. This ability is related to the recognition of entrepreneurial opportunities.

The fourth and final dimension is exploitation. This dimension is strategic for a company because it generates results after the effort to acquire, assimilate and transform knowledge. The exploitation is the development of routines to implement and use the knowledge and thus create new products, systems and processes (for example, new forms of organization) and improve existing skills, or even create new skills.

Each dimension plays a different but complementary role to explain how the absorption capacity may influence the results of the organization.

Jansen and al. (2005) took over the dimensions proposed by Zahra and George (2002) and conclude that the absorption capacity has two different components which correspond to the potential and the actual absorption capacity.

Todorova and Durisin (2007) propose to reconceptualize the absorption capacity of long-term by making some changes in the definition proposed by Zahra and George (2002) and therefore in its dimensions. They show that the recognition of the value as a critical first step in the acquisition of new external knowledge is a term much clearer, because it is based on the idea initially proposed by Cohen and Levinthal (1990) that if there is no prior knowledge, organizations will not be able to evaluate the new information and thus, will not be able to absorb it.

Moreover, the authors argue that the transformation is an alternative and not a later stage of assimilation. The transformation occurs only with the knowledge that is too recent to be considered in its raw state.

Finally, Lichtenthaler (2009) distinguished between three learning processes that are complementary to the absorption capacity: First, exploratory learning which comprises the steps of recognizing external knowledge and assimilation. Next, learning processing which includes the steps of maintaining assimilated knowledge and its reactivation. Finally, the operational learning that includes the steps of transmutation and application of assimilated knowledge. Although these steps were analyzed in previous research (eg the research of Lane and al., 2006; Todorova and Durisin 2007; Zahra and George, 2002), how to group them is differently analyzed.

3. RELATIONAL NETWORK AND ABSORPTION CAPACITY: FORMULATION OF HYPOTHESES

In what follows, we will examine some ways in which each of the four dimensions of relational network acts on the access of the contractor on external resources and its absorption capacity.

Greve (1995) argues that a higher number of contacts in the relational network of the contractor increases the possibilities to receive diverse information. The author admits that the intentional search for information is difficult and that luck is needed to obtain useful information. However, the diversity of information within a broad network increases the chances of the existence of a similarity between the stock of knowledge held by the contractor and the knowledge that it can be obtained from the outside. This similarity is necessary for the absorption of external knowledge in that it facilitates its acquisition, assimilation, transformation and exploitation (Cohen and Levinthal, 1990; Lane and Lubatkin, 1998). However, if a minimum of diversity is valued for improving the absorption capacity of the contractor, a wide variety of links leads to fragmentation of knowledge that prevents the development of heuristics for its treatment. Then, it would be legitimate to think that beyond a certain limit, the diversity of the relational network of the contractor hinders his absorption capacity. Hence, the following assumptions:

H.1: The network size determines the capacity to absorb external knowledge of contractors.

Furthermore, based on the argument of redundancy, Burt (2001) argues that network density improves communication between members who are best placed to recognize the value of resources held by the partners. In this same line of thought, (Reagans R. & E. Zuckerman, 2001) argue that the importance of the amount of information that a dense network creates helps members to value the knowledge circulating in the network. Also, Eriksson and Sharma (2003) find a positive relationship between redundant links and assimilation of knowledge by the contractors. The authors propose a redundant link is useful for understanding and assimilation of knowledge acquired in another relationship. However, studies by Granovetter (1982) and Rogers, Everett M (1983) show that low-density networks are more favorable to the spread of new ideas and the diffusion of innovation. Thus, the network members would be more likely to find new solutions to their problems from the experiences of other members and new ideas generated by them. Finally, the increased communication between partners in a dense network increases the chance that the knowledge gained to better target the receptor partner objectives and therefore, leads to a good exploitation of knowledge. In addition, redundant links within the network increases the circulation of skills that members need to achieve their goals. Hypothesis about the impact of the network density on the absorption capacity of contractors are formulated as follows.

H.2: The network density is positively related to the capacity to absorb of external knowledge of contractors.

Furthermore, the repeated interaction between the members of a network induces a similarity of their knowledge of stocks (Coleman, 1988; McFadyen, Cannella and Albert, 2004).

This similarity is important for the development of new knowledge. In addition, by increasing the activities and knowledge sharing routines, social interactions enhance the ability for an individual to value and assimilate external knowledge provided by his network members (Yli-Renko and al, 2001). Then, when the actor maintains the same partners exchange over time, the number of shared experiences increases (Bouty, 2000). Now, more partners have experience in solving problems of similar types, will be easier for the leader to find commercial applications for knowledge he has acquired and assimilated (Lane and Lubatkin, 1998).

However, more the stronger links between partners increase, more the diversity of knowledge exchanged decreases. As noted above, although Cohen and Levinthal (1990) emphasize the importance of the similarity of knowledge bases between the partners for the development of the absorption capacity, they also highlight the need for the existence of a minimum of different knowledge ensuring complementarity between partners. So while we expect a positive initial effect of the intensity of ties on the various components of the absorptive

capacity of the contractor, it is also contemplated that such effects fade over time. Hence, the following hypothesis:

H.3: The intensity of ties significantly affects the capacity to absorb external knowledge of the contractors.

Furthermore, the heterogeneity of information and knowledge increases the chances of discovery of new opportunities. This is for example to be aware of the emergence of a new resource. Similarly, network heterogeneity exposes individuals to different points of view. Therefore, these people will be more inclined to try the different opportunities and by comparing the different points of view. Also, network heterogeneity increases the possibilities of interpretation and analysis of knowledge gained and thereby, increases the degree of assimilation of knowledge. However, the diversity of knowledge areas should not exclude the sharing of a common language between them, necessary for the assimilation of knowledge. In addition, access to heterogeneous knowledge increases the potential for the creation of an individual. This potential revet of form of an interconnection between ideas and different concepts in the mind of the individual (Rodan and Galunic, 2004).

Then, the network diversity improves the ability of an individual to implement his ideas and execute complex tasks. Indeed, the heterogeneity of knowledge enables the individual to establish causal links between the elements of a complex system that characterizes some of the gained knowledge. Finally, the variety of areas of expertise, offers a wide range of skills related to different fields of expertise. The variety of available skills is especially important in situations of high uncertainty, as is the case for innovation.

H.4: The scope of the network is positively related to the absorption capacity of external knowledge of contractors.

Although the effects of each dimension of relational network are examined separately, we assume that the three dimensions are interrelated. For example, previous studies simultaneously examining the effects of density and diversity of the network. These studies suggest that despite the diversity and density are separate, they are not mutually exclusive. Indeed, the redundancy of ties that characterizes a dense network does not mean that the network is diverse, from the time when its members belong to different fields of expertise (Greve, 1995; Reagans and McEvily, 2003). In other words, the redundancy of information is not only the number of relations between the partners, but also the degree of homogeneity of network contacts in terms of occupations and experiences (Greve, 1995). Similarly, previous research has shown the existence of a relationship between network density and intensity of ties within it. Thus, it is generally recognized that strong ties are developed further in the dense networks (Granovetter, 1973). In addition, McEvily and Zaheer (2003) found that when the density of the network is introduced into their model, the contingent effect of the intensity of the ties on the ease of knowledge transfer decreases. According to the authors, this is due in part to the fact that the intensity of ties and network density are interrelated.

4. RESULTS AND DISCUSSION

In what follows, we tried to formulate the items related to the absorption capacity (these items are 8 in number as shown in Table 1). We then try to analyze the structure of the entire scale on the absorption capacity. To this end, the principal component analysis (PCA) needs a rotation of the axes. We then obtained the results presented below. As we can see, we have selected a single factor explaining 71.09% of the total variance.

Table 1: Principal components a	analysis	of the absor	ption o	capacity
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Items	Contribution F.1
Access to basic knowledge related to the project	0.867
Access to other knowledge which are not related to the project	0.855
Description of situations, concepts or processes	0.922
Use of terms you can understand	0.807
Adapt to external changes	0.92
Difficulties in sharing experiences	0.744
A greater understanding of the way in which you activity is accomplished	0.881
Similarly to solve problems	0.725
Eigenvalue	5.68
% Of the explained variance	71.09%

Moreover, we have condensed the variables initially adopted in reduced number of composite variables in order to proceed to the validation of the hypotheses. We synthesize the results of all the factor analyzes conducted on the different variables. It should be recalled that in the study of validation of hypotheses, we have established choice of analytical methods of the reference sample. We used the nonparametric tests and simple regression tests. Indeed, the division of the sample into two groups of samples results in a decrease in the number of observations per group of individuals. Given this, it is necessary to mobilize adequate statistical tests (parametric and nonparametric tests).

The analysis in this research is based on two components. In the first, it is to check the change in the variables of our model for the two age categories (under 40 and over 40 years). In this phase of the analysis, the sample will be divided into two groups (variable according to age). The goal is to study the quality of cause and effect between the dependent variable and the explanatory variables contained in the research hypotheses. We will focus on testing hypotheses regarding the change of variable age of contractors.

In order to test the relationships of variables affecting access to external resources and the absorption capacity, we used multiple regression tests that are done in three levels: The dependence intensity of each component of the relational network personnel (structure-type of network ties-attributes of alters) on access to external resources and the absorption capacity which is calculated using the correlation coefficient. The significance of the connection and the quality of the fit of the model is assessed through the determination coefficient R2 and the F test of Fischer, and finally, the examination of residues which reflect the accuracy of the model.

It should be noted that the linear coefficient of determination, R2 is the main indicator of the quality of regression. In other words, it summarizes the ability of the regression to represent all of the point cloud of the observed values. However, the interpretation of R2 must take into account also the number of explanatory variables and observations included in the model. To this end, the adjusted R2 provides a more realistic assessment of the results of the model.

Table 2: Results	of multiple	regression	of the	structure	of the	relational	net
work an	d access to e	external reso	ources				

Coefficient							
(p-value)							
	Informational resource	Financial resource	Absorption capacity				
Scope of the network	0.48***	0.569**	-0.03ns				
Scope of the network	(0.000)	(0.013)	(0.579)				
Notwork dopoity	-0.371**	-0.416 ns	1.6**				
NELWOIK UEIISILY	(0.022)	(0.28)	(0.046)				
Structural holes	-0.0027ns	0.031**	0.066				
	(0.649)	(0.045)	(0.961)				
Constant	3.902***	4.096 ***	0.65***				
CUNSIANI	(0.000)	(0.001)	(0.000)				
N.obs	32	32	32				
RMSE	0.43	1.078	3.859				
Parms	4	4	4				
R ²	54.04%	38.67%	18.4%				
Value of F	10.976	5.884	3.106				
p-value of F	0.0001	0.0030	0.072				

The first relationship we wished to verify logically equivalent to the assumption on the possible influence of the structure of the relational network of the contractors on the access to external resources. Multiple regression tests in this regard provided a significant result. Indeed, the F value is 10,976 with probability p-value = 0.0001 for the first regression, and the value of F is 5.884 with probability p-value = 0.003, for the second regression. It allows concluding about the quality of the value in the two variables. At this stage, we have verified three main relationships related to the extent of network, structural holes and network density.

To check the first relationship, that is to say the effect of the extent of network on the access to external resources, our empirical results indicate a coefficient of 0.48 with a p-value = 0.000 for the relationship between the size of the network and access to information resources and a coefficient of 0.569 with a p-value = 0.013 for the relationship between size of network and access to financial resources.

These results are consistent with our theoretical prediction and they have been previously recommended by the work of Baron (2007) and Brown and Dugrant (1992) who show that a large network of contractors improves the chance to pick up useful information in one hand, and to access to external information resources and recognition of the other opportunities. Thus, our hypothesis which postulates that access to external resources depends on the size of the network is accepted.

It is the same for the test on the relationship between network density and access to strategic informational resources. The result shows a coefficient of 0.031 which significant (p-value = 0.045) and we then can conclude the acceptance of the hypothesis assuming that the density of the network apprehended in the side of gestures and contacts roles significantly influences access to external resources and in particular increases the likelihood that the contacts share the same information.

However, by refining the research on the role that can play structural holes in access to external resources, our empirical results show a non-significant coefficient (p-value = 0.28), and the hypothesis is rejected and that these non Significant fallout do not allow the speed of information and a better quality of information. In this sense, we can conclude that the hypothesis of the relationship between the relational personal network structure and access to external resources is partially validated.

Moreover, the first review of the relationship between the extent of the network and the absorption capacity shows a non-significant test (p-value = 0.579). In this sense, we performed an analysis based on the results provided by the non-parametric tests on the change of the absorption capacity by the age of the contractor. Indeed, the structure of the relational network in the side of the scope shows a significant difference between the two age groups. In the same sense, we see a non-significant test.

In opposition, the test of the relation between the structural holes and the absorption capacity indicates a significant coefficient. Indeed, the test shows a coefficient of the order of 1.6 to 5% risk (p-value = 0.046). These results strengthen those recommended by Granovetter (1982) and Royers (1983) who argue that a high number of contacts increase the possibility of receiving a variety of information and the existence of a similarity between the stock of knowledge and knowledge from outside.

Moreover, the results also reveal a significant relationship between network density and absorptive capacity. The multiple regression tests show a significant coefficient at the threshold of 1%. Thus, it is apparent that the gained knowledge is better targeted to partner goals in a dense network, which supports the dissemination of new ideas and therefore, the generalization of innovation. In this regard, we conclude that hypothesis H.2 is validated.

The second relationship we have studied is the influence of the nature of the ties on access to external resources. The analysis of the first simple regression test revealed a non-significant test (F = 0.01 with p-value = 0.92). In this sense, we conducted an analysis based on the results provided by the non-parametric tests on changing of the nature of ties in the two age groups. Regression test still not significant (F = 0.029 with p-value = 0.074). In opposition, the test of the second regression indicates a significant value of F equals to 3.13 at the level of 10% (p-value = 0.086).

The share of the returned variance is equal to 9.4%. Thus, we conclude a partial validation of the hypothesis of Mackle (2004) which shows that the typology of the existing strong ties between two distinct social groups provides more access to financial resources to meet all business objectives.

However, the analysis of the relationship between the nature of the ties and the absorption capacity indicates an insignificant test. The test shows a value of F equal to 0.09 with a p-value = 0.77, and the share of explained variance is 2.3% with a coefficient of adjusted R^2 almost 3%. Thus, H.3 hypothesis which postulates that the absorption capacity depends on the nature of the ties is rejected.

ANOVA									
	DF	Sum o	f squared	Mean square	R ²	R ² ajusted	Error	Value of F	p-value of F
Model 1	1	0	.633	0.373	2.9%	7.4%	11.22	0.01	0.92
Model 2	1	1	1.27	1.71	9.4%	6.4%	45.22	3.13	0.086
Model 3	1	1	1.45	4.12	2.3%	3.04%	16.99	0.09	0.77
Coefficient (p-value)									
	Informational resource Financial resource Absorption capacity								
Nature of social ties -0.027ns (0.924) 1.027* (0.087) 0.55 ns (0.772)				.55 ns).772)					
Constant 4.19*** (0.000)		.19***).000)	4.43 *** (0.001)			4 (C	4.38*** (0.003)		

Table 3: Regression model	of the nature of ties,	, access to externa	ıl resources and
absorption capacity	7		

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In order to check third the effect of attributes of alters on the access to external resources, we conducted a regression test between the two variables. Our empirical results indicate a null value of F with a p-value of 96.9%. In addition, the simple regression test is significant for either the first regression (F = 0.22; p-value = 0.8) or for access to external resources (F = 0.08; p-value = 0.92).

	ext	ternal resource	es					
ANOVA								
	DF	Sum of squared	Mean square	R ²	R ² ajusted	Error	Value of F	p-value of F

Table 4: Regression model between the attributes of alters and the access to

	DF	Sum of squared	Mean square	R ²	R ² ajusted	Error	Value of F	p-value of F
Model 1	1	11.39	0.37	15%	17%	0.8005	11.39	0.22
Model 2	1	1.81	0.14	5%	6.3%	0.925	52.81	0.08
Model 3	1	13.3	4.07	2.6%	3.4%	0.077	16.59	3.8
Coefficient (p-value)								
	Informational resource Financial resource Absorption capacity				pacity			
Attributes of alters	of	-0.084 (0.96	4ns ;9)	0.179 (0.704)		1.28*(0.082)		32)
Constant		4.201 (0.00	***	4.6 (0.0	3 *** 200)		7.6** (0.029)	

The last relationship we wanted to check logically equivalent to the hypothesis H.4 about the influence that can have the attributes of alters on the absorption capacity. The simple regression test provided a significant result. However, the F value is 3.8 with probability p-value = 0.077 allowing comment on the quality of the relationship between the two variables. This assessment is assigned by a correlation coefficient of 1.28 with a probability of p-value = 0.082. Thus, our hypothesis H.4 is validated.

5 CONCLUDING REMARKS

Our results show that access to external resources is mainly dependent on certain structural characteristics of the relational network of the contractor, to know the size and density of the network, as opposed to structural holes, which has no significant effect on access.

Moreover, our empirical result shows that the absorption capacity as a key step in access to resources is strongly conditioned by the relational network of the contractor. To this end, our analysis reveals that the number of structural holes, besides the density of the network, significantly affect the absorption capacity. However, while non-parametric tests indicate a significant difference in the absorption capacity between the two age groups of contractors, our econometric results show that the extent of the network has no significant effect on the absorption capacity.

References

Lallement M. and Bevort A. (2006) Le capital social: performance, équité et réciprocité. Éditions La découverte. 320 p.

Mercklé P. (2004). Sociologie des réseaux sociaux, Ed. La Découverte (Paris).

Lazega E. (1999). Réseaux sociaux et structures relationnelles. Que sais-je? Éditions PUF, 127 p.

Adler, P., Kwon, S-W. (2002). Social capital: Prospects for a new concept. Academy of Management Review 27(1): 17-40

Bhagavatula, S., Elfring T., Van Tilburg A., and Van De Bunt G.G. (2010). How Social and Human Capital Influence Opportunity Recognition and Resource Mobilization in India's Handloom Industry. Journal of Business Venturing 25 (3): 245–260.

Batjargal, B. and Liu, M., (2004). Entrepreneurs' access to private equity in China: the role of social capital. Organ. Sci. 15, 159–172.

McEvily, B., Zaheer, A., 1999. Bridging ties: a source of firm heterogeneity in competitive capabilities. Strategic Manage. J. 20, 1133–1156.

Batjargal, B. and Liu, M., (2004). Entrepreneurs' access to private equity in China: the role of social capital. Organ. Sci. 15, 159–172.

Dutta, D. K., Crossan, M. M., 2005. The nature of entrepreneurial opportunities: understanding the process using the 4I organizational learning framework. Entrepreneurship Theory and Practice 29(4), 425-449.

Zahra SA, George G (2002). International entrepreneurship: the current status of the field and future research agenda. In Strategic entrepreneurship: creating a new mindset, edited by Hitt MA, Ireland RD, Camp SM, Sexton DL. Blackwell Publishers: Oxford, UK: 255-288. Forsgren, M., Holm, U., Johanson, J., 2005. Managing the Embedded Multinational d a Business Network View. Edward Elgar, Cheltenham, UK.

Gunawan, J., & Rose, E. L. (2014). Absorptive capacity development in Indonesian exporting firms: How do institutions matter? International Business Review, 23(1), 45–54

Camisón, C., & Forés, B. (2010). Knowledge absorptive capacity: New insights for its conceptualization and measurement. Journal of Business Research, 63, 707–715.

Cohen, W.M., Levinthal, D.A., 1990. Absorptive capacity. A newperspective on learning and innovation. Admin. Sci. Q. 35 (1),128---152.

Mowery, D., & Oxley, J. (1995). Inward technology transfer and competitiveness: The role of national innovation systems. Cambridge Journal of Economics, 1, 67–93.

Liu, C. E. (2012). An investigation of relationship learning in cross-border buyersupplier relationships: The role of trust. International Business Review, 21(3), 311-327

Liu, C. E. (2012). An investigation of relationship learning in cross-border buyersupplier relationships: The role of trust. International Business Review, 21(3), 311–327

Yao, Z., Yang, Z., Fisher, G. J., Ma, C., & Fang, E. (2013). Knowledge complementarity, knowledge absorption effectiveness, and new product performance: The explora-tion of international joint ventures in China. International Business Review, 22(2), 216–227.

Szulanski, G. (1996). « Exploring internal stickness: Impediments to the transfer of best practice within the firm », Strategic Management Journal, 17, p. 27.

Larsson, R., Lubatkin, M., 2001. Achieving acculturation in mergers and acquisitions: an international case survey. Human Relations 54 (12), 1573–1607.

Todorova, G., Durisin, B., 2007. Absorptive capacity: valuing a reconceptualization. Academy of Management Review 32, 774–786.

Xia, T.,Roper,S.,2008.Fromcapabilitytoconnectivity—absorptivecapacityand exploratoryall iancesinbiopharmaceuticalfirms:aUS-Europecomparison. Technovation28,776–785.

Lane, P., Salk, J., & Lyles, M. (2001). Absorptive capacity, learning, and performance in international joint ventures. Strategic Management Journal, 22(12), 1139–1161.

Jansen, J.J.P., Van Den Bosch, F.A.J., Volberda, H.W., 2005. Managing potential and realized absorptive capacity: how do organizational antecedents matter? Academy of Management Journal 48, 999–1015

Todorova, G. and Durisin, B. (2007) Absorptive capacity: Valuing a reconceptualization. Academy of Management Review 32(3), 774–787.

Lichtenthaler, U. (2009). Absorptive capacity, environmental turbulence, and the complementarity of organizational learning processes. Academy of Management Journal, 52(4), 822_846.

Lane, P., Koka, B., & Pathak, S. (2006). The reification of absorptive capacity: A critical review and rejuvenation of the construct. Academy of Management Review, 31(4), 833–863. Greve, A. (1995), « Networks and Entrepreneurship-An Analysis of Social Relations, Occu-

pational Background, and use of Contacts during the establishment process », Scandinavian Journal of Management, vol. 11, n°1, pp. 1-24.

Lane, P.J., Lubatkin, M., (1998) Relative Absorptive Capacity and Interorganizational learning, *Strategic Management Journal* 19(5), pp.461-477.

Burt(2001), « The social Capital of structural Holes », in Guillén, Collins, England et Meyer (eds.), The New Economic Sociology : Developments in an Emerging Fields, Russel Sage Foundations, Paula England, pp. 148-19

ERIKSSON, K. & D. SHARMA, 2003, « Modelling Uncertainty in Buyer–Seller Cooperation », Journal of Business Research, vol. 56, N° 12, p.p. 961–970

Rogers, Everett M. (1983). Diffusion of innovations. New York, NY: Free Press.

COLEMAN J.S., 1988, "Social capital in the creation of human capital", *American journal of sociology*, vol. 94, pp. S95-S120.

MCFADYEN M., JR CANNELLA & A. ALBERT, 2004, « Social Capital and Knowledge Creation », Academy of Management Journal, vol. 47, n°45.

YLI-RENKO. H, AUTIO. E, SAPIENZA. H, (2000), « Social Capital, Relational Learning, and Knowledge Distinctiveness in Technology Based new firms». http://www.babson.edu/ entrep/fer/papers99/XXVIII/XXVIII_D/XXVIII_D Text.htm. BOUTY I., 2000, « Interpersonal and Interaction Influences on Informal Resource

Exchanges between R&D Researches Across Organizational Boundaries », Academy of Management Journal, vol. 43, N°1, p.p. 50-65.

Lane, P. J. and Lubatkin, M. (1998), "Relative absorptive capacity and interorganizational learning", *Strategic Management Journal*, Vol. 19, pp. 461-477.

Rodan, S., and C. Galunic (2004). "More ThanNetwork Structure: How Knowledge Heterogeneity Influences Managerial Performance and Innovativeness," *Strategic Management Journal* 25(6), 541–562.

Reagans, R., McEvily, B., 2003. Network structure and knowledge transfer: the effects of cohesion and range. Administrative Science Quarterly 48 (2), 240–267.

GRANOVETTER. M, (1973), « *The strength of weak ties* ». American Journal of Sociology, Vol 78, 1360-1380.

Heeley M (1997). Appropriating rents from external knowledge: the impact of absorptive capacity on firm sales growth and research productivity. Frontiers of Entrepreneurship Research, Babson College, Babson Park, MA.

GRANOVETTER. M, (1973), « *The strength of weak ties* ». American Journal of Sociology, Vol 78, 1360-1380.

REAGANS R. & E. ZUCKERMAN, 2001, « Networks, Diversity and Performance: The Social Capital of R&D Units », Organization Science, vol. 12, p.p. 502-517.

Granovetter, M. (1982) The strength of weak ties: A network theory revisited. In Peter V. Marsden and N. Lin (Eds.), Social structure and network analysis. Sage.