

**MANAGING
FIRM SPECIFIC KNOWLEDGE
FOR VALUE CREATION
IN THE GLOBAL ECONOMY**

“The Role of Firm Specific Knowledge in Organizations”

THESIS DIRECTOR: DR. RAFAEL ANDREU (IESE)

DOCTORAL CANDIDATE: JOAN BAIGET SOLÉ (UOC)

Research Subject

The research is focus in the reality of Knowledge and Information Society, and specifically in Knowledge Management in organizations. Academic approach will serve us to assess Knowledge Management (KM) practices in Organizations and how they relate to Knowledge Models.

From this point of view, the subject of the doctoral thesis is to analyze how 'Firm Specific Knowledge' (FSK) plays the role in today's companies, as a potentially source of sustainable competitive advantage (SCA).

Title

"Managing Firm Specific Knowledge for Value Creation in the Global Economy"

Interest of the Subject

Companies, as a key factor for the production process, are elements to bring progress to society. They believe and commit that KM can help in the improvement of efficiency and effectiveness in organizations is the driver that motivates the present work.

Nevertheless the importance of KM in organizations, the reality in these organizations seem to be away from effective KM practices, becoming a message that usually appears as not well defined. A message that quite often don't find the link between the great amount of theory and the adequate portion of practice, in terms of specific activities that reach measurable results inside organizations. This seems to be a lack in the business management activities in most of companies that require a good understanding and practice of knowledge management.

One of the most known models for KM is the SECI Model from Nonaka-Takeuchi. This is a real consistent model whose powerfulness resides in its simplicity: four scenarios (socialization, externalization, combination and internalization) perfectly defined and with the potential to be a referent in any knowledge management analysis. We can use this model as a reference framework along the process of analysis that we hereby propose.

In another hand, one of the issues more argued in academic environments –related to knowledge management– is the existence and importance of what usually is called as 'Firm Specific Knowledge' (FSK). This 'own' knowledge in organizations defines an idiosyncratic knowledge that belongs only to each individual organization that can play an important role in the desired competitive advantage firms capacity.

Investigate how this type of knowledge plays in the firm's reality according to knowledge models and according to organizational and knowledge practice is the aim of the present study. We will try to study in depth the knowledge management in the organizations and the need for transforming it for a more effective role in the objective of business results from its practice.

State of the art

There are many authors that analyze, in their studies, what is the role of Knowledge as a provider of sustainable competitive advantages – SCA- in organizations.

The so called ‘knowledge-based theory of the firm’ (Kogut and Zander 1992; Grant and Baden-Fuller 1995; Conner and Prahalad 1996) is the evolution of the called ‘resource-based view of the firm’ (Wernerfelt 1984; Barney 1986; Prahalad and Hamel 1990). This theory argue that according to knowledge as a key resource in organizations, it is strategically important the effective knowledge creation and distribution across the entire organization, specially the integration and coordination of individual and organizational knowledge.

In this context also arises the existence and importance of an ‘organization-personal’ knowledge, an ‘own’ knowledge, a distinctive way of doing things in the organization. A particular way of doing things, this is an idiosyncratic knowledge, a characterized way of doing things in the organization (Bell, 1973; Druker 1993). This knowledge is difficult to imitate (Barney 1991, 1995) and difficult to get in the external market due that most of their roots are path and context dependent (Teece, Pisano and Shuen, 1997), and this is really difficult to replicate, for this reason can be considered as a source as sustainable competitive advantage (Grant, 1996).

So, this differentiation through knowledge can offer competitive advantages, sustainable in the time, better than material assets. Material assets nowadays can be found in the marketplace, in similar conditions for all the players, and they can be found in any similar organization with the same characteristics. The way to understand how firm specific knowledge has been treated by authors until today, is very rich in points of view (Nelson and Winter, 1982; Spender, 1996; Eisenhardt and Martin, 2000). The characteristics of this type of knowledge implies that the way to integrate it in the organization needs also to be different (Andreu, R. - Sieber, S. 2005). For some authors this sort of knowledge has become a sort of equivalent concept as ‘Capital Intellectual’ (Edvinsson & Malone, 1997).

In any way, firm specific knowledge cannot be exhaustive itself. No one organization can use exclusively this knowledge and do not have a ‘general-purpose knowledge’, due that this would represent an isolation of the company in respect their environment. This is a supposition unable to have credibility, and to have and share external knowledge is also a need for companies, and can be as well a competitive advantage (Dyer and Singh, 1998).

Companies then, employ both types of knowledge and this is a reality widely accepted (Becker, 1962; Williamson, 1982): *firm-specific knowledge* and *general-purpose knowledge*. The question then that arises is **what the adequate formulation between both types of knowledge?**. That means: what is the necessary proportion of each sort of knowledge to obtain the so desired sustainable competitive advantage? In this context, different organizational structures, and different knowledge management models, combined in organizations can make the difference between companies allowing them to get or not this competitive advantages.

Firm specific knowledge play also a role of integrator in respect new knowledge, to adapt them and give sense of it inside the company, adapting it to the way ‘how things are done’, and provides an extension of the tradition and culture in the organization (Spender, 1996).

In the other hand, this specific way of doing things plays an important role in the creation and deployment of new knowledge and it could be considered as a source of Dynamic Capabilities with in the mark of the organization (Teece, Pisano, Shuen 1997; Eisenhardt and Martin, 2000; Helfat, 2007).

General-purpose knowledge is necessary for the organization to be able to offer, or at least be aligned, what is standard in the market and for this reason it is necessary to know, to understand and to be able to manage. This is knowledge with a similar value inside the organization and outside the market (Becker, 1962). This is not the case with the firm specific knowledge, because is due to their 'specific' characteristic that it has much more value inside the organization than outside it, because it's a knowledge enrooted in the organization, difficult to imitate outside and thus, able to generate this differential value that benefits the company who knows how to manage it. This benefit is because the company has the elements that generate success more protected.

As knowledge embedded in the organization, firm specific knowledge is dependent on the different structures and organizational changes. So, globalization in one side and the increasingly importance of intangible assets in the other hand, have produced a reflexion process about how can be the way to generate and integrate knowledge in the organization.

In the XIX Century the organizational activity was more focused in managing purchases, sales and investments. This model suffered a crisis once begun XX Century, when the enterprises face the need of managing a massive knowledge due to an intensive innovation capitalism (Hatchuel, Le Manson, Weil, 2002). Despite this, it is starting from the 70s, with the irruption of new technologies (TIC), that this change becomes more evident and the non-tangible assets acquire a strategic value for the success of the organizations (Itami, H. 1980). And starting from here a change begins that involves not only people, but also the organizations, and that are acknowledged from the literature, emerging concepts as "knowledge worker" or "net organization" (Drucker, P. 1988). The organization needs a change and needs to become a 'Learning Organization' (Senge, P. 1990) in order to survive the rapidity of the social changes. Starting from here there is an exclusion of proposals that refer to the organization: the clever enterprise-organization (Quinn, J.B. 1992; Choo, Chun Wei 1998), the virtual organization (Davidow and Malone, 1993) or the flexible organization (*flexible firm*) (Galbraith 1993; Volberda 1997; Birkinshaw and Hagstrom 2002). Both the new form of structuring the organization, as well as the knowledge management, conditions the generation of a Firm Specific Knowledge as a sustainer of competitive advantages.

Hypothesis

Considering the empiric observation of the social presence of the concept "Knowledge and Information Society" we have chosen to point out one of the effects associated with this phenomenon: the "Knowledge Management" in the Organizations, and in particular, as mentioned in the role carried out by Firm Specific Knowledge, when contributing to generate competitive sustainable advantages.

As first thing we will be formulated a general hypothesis, and then, more specific hypothesis supporting the general hypothesis.

Formulation of the general Hypothesis: The development of the Firm Specific Knowledge contributes to obtainment of sustainable competitive advantages.

This work will take into consideration, when necessary, the **Model SECI** (Nonaka, 1991; Nonaka & Takeuchi 1995), a well know knowledge model, considered as a framework in order to analyze the knowledge managing practices in the enterprises. This can help in the understanding that the practice is not holistic in relation with knowledge that the firm needs to manage, nor it takes into account properly an attention to the '**Firm Specific Knowledge**' of the organization.

In deed, previous studies of the practice of the knowledge management in the enterprises ('Management of knowledge and Competiveness in the Spanish Firm, 2003 y 2007) suggest that there is a gap between the knowledge, which is really important for the obtainment of the so much searched sustainable competitive advantage (SCA), and the practices of the knowledge management. I refer, in particular, to the lack of attention vis-à-vis the specific importance of the firm specific knowledge (Andreu, Canals, Baiget, 2007).

The practical application of the Knowledge Management in the Organizations, analyzed if necessary throughout the Model SECI ambits, does not take into consideration, in a distinctive or proportional manner, the importance that the so called Firm Specific Knowledge is expected to have.

This implies, on one side, the detailed study of the status of the issue in relation to the Firm Specific Knowledge and, on the other side, to consider it within the different knowledge management models, and in relation with the organizational structures, optionally. Therefore, it will be possible to forecast which practices have to be observed in order to be able to relation the importance of the Firm Specific Knowledge, with an adequate Knowledge Management that contemplates these practices.

The presence of this Firm Specific Knowledge within the enterprises has already been pointed out as an important matter for many top business managers of middle and big enterprises, it being given an average score within Lickert Scale of 4.1/5 (in questionnaires). Notwithstanding the foregoing, the analysis of the practice of Knowledge Management within the organizations does not show a specific attention to this kind of knowledge (study 'Knowledge Management and Competiveness' editions 2001, 2003, 2007). The own evaluation of the Managers of this practice – using the same sources – is, in general, very deficient, given that only a 4% of such Managers believe that their enterprises make a well and adequate knowledge management (Andreu, Canals, Baiget. 2007), even having improved the former result of 1% (Andreu, Baiget, 2003). And therefore there is a non symmetry between the theory and the practice, given that a 78% of the Manager interviewed (Andreu, Canals, Baiget. 2007) consider that the Knowledge management contribute "a lot" or "much" to the competitiveness of the enterprise.

The spirit of this work is, as well, to better understand this gap, this divorce between the importance of knowledge and firm specific knowledge and the management practices. With this understanding we'll be able to propose defined action to help to define a model or to improve a reference model (SECI) application.

Methodology

This thesis contemplates 4 phases:.

- **Phase 1: Academic justification: Firm specific knowledge, Knowledge management models, organizational structures**

This is part of a theoretical reflection about the main concept associated to the thesis strategy. We'll analyze the scope of firm specific knowledge and its importance as integrator of the new knowledge.

In this phase we will also analyze the most important KM models and think how FSK can be present in them and specifically with a special attention to the SECI model.

Finally, how this happens inside the structure of the organizations will be also a point of review, to see the rationale behind this..

Results: Firm Specific Knowledge state of the art. Relationship of FSK and with KM Models and Organization structure.

Status: Most of the key sources identified and review.

- **Phase 2: Sub-hypothesis defined and preparing data**

In this phase we have formulated the sub-hypothesis according to theory and the main hypothesis formerly defined.

The task have been a collaboration with the candidate and the Thesis director Dr. Rafael Andreu, according to some suggestions that can better enrich the development of the thesis and the quality of conclusions.

These sub-hypothesis are:

- A) Leadership in organizations should demonstrate a correlation with importance of FSK
- B) Correlation should also exist between FSK and core capacities
- C) Core capacities should be coherent with Learning Practices analyzed according 'Learning Trajectories
- D) Learning practices and Knowledge integration should be coherent with KM practices

In the preparation of the Thesis and more specifically for this phase we have review the following studies:

- KM Research Report (1998 y 2000). KPMG
- La gestión del Conocimiento en España (2001). IESE/Capgemini

- Estudio exploratorio. Administración del conocimiento en México: Entendimiento, Intención, Práctica y Resultados de futuro (2001). Centro de Sistemas de Conocimiento. Tecnológico de Monterrey.
- Insights from KPMG's European Knowledge Management Survey (2002/2003). KPMG
- La Gestión del Conocimiento en Extremadura (2003). Fundecyt.
- Estudio sobre la gestión del conocimiento en España (2004). Fundecyt/Aenor. Plan Nacional de Investigación Científica, Desarrollo e Innovación Tecnológica (2004-2007)
- Managing knowledge for competitive advantage (2005). TATA/The Economist Intelligence Unit.

Results: Sub-hypothesis and preparation of the set of data.

Status: Sub-hypothesis defined. Set of data structured and available

- **Phase 3: Empirical validation**

This phase will be developed with the real data analysis from our available data-warehouse, based in the last recent research:

- *Knowledge Management and Competitiveness in Spanish Enterprises - 2005*
 - Authors: R.Andreu-IESE, J.Baiget-Capgemini
 - Published: Revista Capital Intelectual 2005
- *Knowledge Management and Competitiveness in Spanish Enterprises*
 - Authors: R.Andreu-IESE; A.Canals-UOC; J.Baiget-Capgemini.
 - Published: Wiley Interscience 2007

Knowledge Management questionnaire addressed to companies have provide us with a raw database for other studies focus than the statistical approach used in the studies published.

Questionnaires consist in 100 items in 6 different Sections.

Among 50.000 database companies in Spain, questionnaires have been sent to 4.000 enterprises, directly to Top Management (Direction General).

200 valid questionnaires have been recovered with the result of tens of thousands items with valid information ready to be analyzed.

Results: The results will be the verification or the rejection of the sub-hypothesis

Status: Pending to start

- **Phase 4: Conclusions. Analysis of data results and conclusions**

Results: General conclusions

Status: Pending to start

About Thesis Director

Dr. Rafael Andreu i Civit have a long experience in Knowledge Management and Organizational Learning, among other disciplines.

Professor Rafael Andreu is author of several books, articles and studies. His article "Knowledge integration across organizations: How different types of knowledge suggest different Integration Trajectories," coauthor with Dra. Sandra Sieber, published at Knowledge and Process Management (October 2005), is one of the key elements to develop this thesis.

Profile Dr. R. Andreu

- Enginyer Industrial, (ETSEIB) Universitat Politècnica de Catalunya (UPC), 1969
- Ph.D. in Management, Massachusetts Institute of Technology (MIT), 1978
- Doctor Enginyer Industrial, ETSEIB, UPC, 1980
- PDG, IESE, 1979

Current Professional dedication

- Professor of Strategic Management and of Information Systems at IESE
- Member of Committee Editorial of *Information Systems Journal*, *Knowledge and Process Management*, *Innovation and Learning*

Bibliography

Andreu, R., Sieber “External and internal knowledge in organizations” - Encyclopedia of knowledge management, Idea Group Publishing, 2005, pages 173-179

Andreu, R., Sieber “Knowledge integration across organizations: How different types of knowledge suggest different 'Integration Trajectories'” - Knowledge and Process Management, Vol. 12, No 3, July/September 2005, pages 153-160

Andreu, R., Baiget, J. y Canals, A. – “Firm Specific Knowledge and Competitive Advantage: Evidence and KM Practices”. Wiley InterScience. Knowledge and Process Management. Volume 15 Number 2 pp 97–106 (2008) DOI: 10.1002/kpm.302

Andreu, R. y Baiget, J. – “Gestion del Conocimiento y Competitividad en la Empresa Española” Revista Capital Intelectual nº 0. 1r. Tri. 2005. pag. 30-58

Barney, J.B. "Firm Resources and Sustained Competitive Advantage," Journal of Management (17:1), 1991, pp. 99-120.

Barney, J.B. (1995). Looking inside for competitive advantage. Academy of Management Executive, 9(4): 49-61.

Becker, G.S. (1962) “Investment in Human Capital: A Theoretical Analysis”, *Journal of Political Economy*, Vol. 70, pp 7-44.

Birkinshaw, J., Hagstrom, P. “The Flexible Firm: capability Management in Network organizations. (Kindle Edition - Jan 14, 2002) - Kindle Book

Conner, K.R./Prahalad, C.K. (1996): A Resource-Based Theory of the Firm: Knowledge Versus Opportunism. *Organization Science*, 7: 477–501.

Choo, Chun Wei (1998) La organización Inteligente. Oxford University Press

Choo, C. W.. Information management for th intelligent organization: The art of scanning the environment (3rd). NJ: America Society of Information Science and Tecnology.

Davidow, W. H., Malone, M. S. (1993). The Virtual Corporation. New York: Harper Business.

Dyer, J.H., and Singh, H. (1998) “The Relational View: Cooperative Strategy and Sources of Interorganizational Competitive Advantage”, *Academy of Management Review*, Vol. 23, No. 4, pp 660-679.

Drucker, P. (1.997) Toward the New Organization. Journal ‘Leader to Leader’

Drucker, P. (1.998) The coming of the new organization. Harvard Business Review

Drucker, P. (1.993). Post-capitalist Society. Oxford: Butterworth-Heinemann, Oxford.

Edvinsson, L. & Malone, M.S., (1997). *Intellectual Capital: Realizing Your Company's True Value by Finding its Hidden Brainpower*. New York: Harper Business.

Eisenhardt, K.M. and Martin, J.A. (2000) "Dynamic capabilities: What are they?", *Strategic Management Journal*, Vol. 21, pp 1105-1121.

Galbraith, J.R. "Competing with Flexible Lateral Organizations (Addison-Wesley Series on Organization Development) by (Paperback - Aug 31, 1993)

Grant, R. M., and Baden-Fuller, C. "A knowledge-based theory of inter-firm collaboration " *Academy of Management Journal* :Best Papers Proceedings 1995), 1995, pp. 17-21.

Grant, R. M. (1996). Toward a knowledge-based theory of the firm. *Strategic Management Journal*, 17(Winter Special Issue): 109-122.

Hatchuel, A., Le Mansson, P., Weil, B. (2002) "De la gestión de los Conocimientos a las Organizaciones orientadas a la concepción" *RICS* Marzo 2002, nº 171

Helfat C.E. et al. (2007) "*Dynamic Capabilities: Understanding Strategic Change in Organizations*", Blackwell, Malden (MA).

Itami, H. (1980) "Mobilizing Intangible Assets" Harvard University Press

Kogut, B. and Zander, U. (1992) "Knowledge of the firm, combinative capabilities, and the replication of technology". *Organization Science*, Vol. 3, No. 3, 383-397.

Nelson, R.R. and Winter, S.G. (1982) *An Evolutionary Theory of Economic Change*, Cambridge, MA: Belknap Press of Harvard University Press.

Nielsen, B.B. (2005) "Strategic Knowledge Management research: tracing the co-evolution of strategic management and knowledge management perspectives" 2005 Bell & Howell Information and Learning Company. Volume 15; Issue 1; ISSN: 10595422

Nonaka, I. o., and Takeuchi, H. *The knowledge-creating company : how Japanese companies create the dynamics of innovation*, Oxford University Press, New York, 1995.

Nonaka, I./Toyama, R./Nagata, A. (2000): A Firm as a Knowledge-creating Entity: A New Perspective on the Theory of the Firm. *Industrial and Corporate Change*, 9: 1-20.

Osterloh, M. "Motivation in a Knowledge-Based Theory of the Firm" (2000) Learning, Incentives, and Knowledge" program, Copenhagen, 26-27, October 2000, Copenhagen Business School.

Porter, J. (1996) 'Knowledge, Strategy and the Theory of the Firm. *Strategic Management Journal*. Vol.17, pag 93-107

Prahalad, C. K., and Hamel, G. "The Core Competence of the Corporation," *Harvard Business Review* (68:3), May-June, 1990, pp. 79-91.

Quinn, R. E., G.M. (Summer 1999). he road to empowerment: seven questions every leader should consider. *EEE Engineering Management Review*, 27(n.2). p.21-28.

Sveiby, K.E., 1997) "The New Organizational Wealth: Managing & Measuring Knowledge-Based Assets" Berrett-Koehler Publishers

Spender, J. C. (1996): "Making Knowledge the Basis of a Dynamic Theory of the Firm", Strategic Management Journal, Vol. 1, Winter Special Issue, pp 45-62.

Senge, P. M. (1990) The Fifth Discipline. The art and practice of the learning organization

Senge, P. et. al. (1994) The Fifth Discipline Fieldbook: Strategies and Tools for Building a Learning Organization

Rice, J.L., Rice, B.S. "The applicability of the SECI model to multiorganisational endeavours: an integrative review" International Journal of Organizational Behaviour, Volume 9 (8), 671-682

Teece, D. J., Pisano, G., and Shuen A. (1997): "Dynamic Capabilities and Strategic Management", Strategic Management Journal, Vol. 18, No.7, 509-533.

Volberda, H.W. (1999), Building the Flexible Firm: How to Remain Competitive, New York: Oxford University Press.

Volberda, H.W. (1997), "Building Flexible Organizations for Fast-Moving Markets", Long Range Planning, Vol. 30, No. 2, April, pp. 169-183.

Wernerfelt, B. "A Resource-Based View of the Firm," Strategic Management Journal (5:2), 1984, pp. 171-180