Knowledge creation and transfer in a public organisation

Creación y transferencia del conocimiento en una organización publica

MEJÍA-ROCHA, Mónica Isabel*†

Universidad de Guanajuato. Fraccionamiento el Establo Marfil s/n C.P. 36000 Guanajuato, Gto.

ID 1st Author: *Mónica Isabel, Mejía-Rocha*

Abstract

The main theme of this research study is to ascertain how knowledge is identified, acquired, transformed and distributed in a public organization. The methodology of the study is based on the paradigm proposed by Paramo (1999), "Reconstruction of the Totality", and is aimed at finding the reality of the fact being studied. It is qualitative, inductive and cross-sectional, aided by certain quantitative aspects. For the field work, tools such as non-participatory observation, questionnaires and documental analysis, as well as questionnaries used inside ans outside the organization, were used. Results of this research point that even though the organization analyzed, it actions that create and transfer knowledge, not all have this intention or are planned for this purpose.

Knowledge, Creation, Transfer

Resumen

El tema central que guía este trabajo de investigación alude al conocer de qué manera se identifica, adquiere, transforma y distribuye el conocimiento en una organización pública. El método del presente trabajo se basa en el paradigma propuesto por Paramo (1999) "Reconstrucción de la Totalidad", intentando conocer la realidad del hecho que se estudia. Trabajo de tipo cualitativo, inductivo y transversal, que se apoya en ciertos elementos cuantitativos. Para la investigación de campo se utilizaron herramientas tales como: la observación no participante, cuestionarios y análisis documental, así como el levantamiento de cuestionarios al interior y exterior de la organización. Los resultados de la investigación refieren a que aun cuando la organización analizada, realiza acciones que de creación y transferencia del conocimiento, no todas las realizadas tienen esta intención, o son planificadas con este fin.

Conocimiento, Creación, Transferencia

---

* Correspondence to the Author (email: monica_mr47@hotmail.com)
† Researcher contributing as first author

Introduction

Since the beginning of the history of organisations, there has always been an interest in improving their processes (Argyris and Schon, 1978; Nonaka, 1991; Kogut and Zander, 1992), which makes sense when considering the importance of knowledge in the organisational world since the beginning of the last century. In the knowledge society (Angulo, E. and Negron, M., 2008), where processes such as the creation and transfer of knowledge are seen as determining elements for the achievement of organisational objectives (Mejía and Colin, 2013).

Organisations must contain elements within themselves that allow them to create and transfer the knowledge found in their internal and external environment (Nonaka and Takeuchi, 1995), as knowledge not only allows entities to adapt to the uncertain and uncontrollable context in which they develop (Chin, 2003), but also, if well used, gives them the possibility to act appropriately towards the achievement of their objectives and successes (Argyris and Schon, 1978); Kogut and Zander, 1992; Canals, 2003 and Senge, 1994); however, there are several organisations today (González, Joaquí and Collazos, 2009) that do not clearly and precisely recognise the guidelines to follow in order to create and transfer knowledge.

Management, according to Drucker (2005), must ensure the application and execution of knowledge in the organisation it represents. The use of knowledge and information allows organisations to innovate, improve efficiency and position their products and services in the market, which leads to a new economy in which people and their knowledge represent a strategic element for the achievement of optimal organisational results (León, Castañeda and Sánchez, 2007). Knowledge (Vargas, 2008) allows an organisation to adapt to the demands of its environment.

The general objective of this study was to identify how a public organisation in the administration of the municipality of Guanajuato creates and transfers knowledge within it, as well as to analyse the organisational elements that promote these processes.

This transversal and qualitative work, supported by some quantitative instruments, is framed in four main stages: The first stage consisted of the review of the state of the art and the theoretical conformation that will support it through the review of texts, journals and scientific publications, the theoretical framework was formed, thus determining the nodes of the research as well as the postulates that aim to respond to them;

The second, which focused on the methodological design for the observation of the object of study; the third part, field work and data analysis, and then in the fourth stage, concluding with the elaboration of conclusions and report.

Literature review

One of the effects of the Information Society has been the imperative need to select, process and transform data into knowledge. In 1993, Peter Drucker, stated that directed learning processes within organisations encourage the transformation of information into knowledge for use. Information by itself is difficult to define; delineating data from information and knowledge is a complex process (Davenport and Prusak, 1999).

They affirm that data are pure observations made by people, and that their value and relevance for the generation of information is given by people, i.e. people convert data into knowledge as a result of a process of reflection and synthesis. The complexity of this process lies largely in the indispensable involvement of people in it. Wiig (2000) noted that the sequence of data, information, knowledge and wisdom does not always occur in a linear fashion and that the discontinuities between them are what allow each one to be delimited from the other.

Trying to address this conversion of data into knowledge, some authors speak of know-how (Leibowitz and Beckman 1998, Sena and Shani 1999), which they refer to as the specific knowledge that gives a person the ability and expertise to perform a given task with ease and efficiency, making him/her an "expert" in that action, which in turn allows the generation of new experiences and information, i.e. a continuous re-continuation of this continuum.

Knowledge: characteristics and classification

Nonaka (1991), suggested the classification of knowledge in two, according to the type of organisation to be treated, i.e., those that mediate their development based on effectiveness, efficiency and cost reduction, used structured knowledge; while organisations that focused on meeting the requirements of their customers used subjective knowledge, which arises from the experience of their employees. Based on the above statement, several authors (Badaracco 1991, Blacker 1993, Cook and Yanow 1993, Hedlund 1994 and Spencer 1996) admit and comment on the classification of knowledge into tacit and explicit knowledge Knowledge, a human process of creative construction, dependent on the experience and optics of the individual who creates it (Von Krogh, 1998), dynamic and goal-oriented.

Tiwana (2002) described three categories of knowledge: Core knowledge, knowledge that is essential for the operation of the organisation, but does not in itself represent a competitive advantage; Advanced knowledge, knowledge that represents the company's superiority over its competitors, only in some areas; and Innovative knowledge, knowledge that differentiates the organisation favourably from its competitors, placing it as a leader at least in its own sector.

Sveiby (1998), considered that knowledge can be tacit, because each meaning of it is vulnerable to the particular experiences of the person who possesses it; dynamic, because it is oriented to action, it is capable of generating new knowledge, transforming itself and in most cases perfecting itself; delimited, due to the creation schemes existing in the human brain that processes it; and movable, due to its capacity for transfer between people.

Tiwana (2002) described three categories of knowledge:

a.   Core knowledge, knowledge that is essential to the operation of the organisation, but does not in itself represent a competitive advantage.

b.   Advanced knowledge, which represents a company's superiority over its competitors only in some areas.

c.   Innovative knowledge, knowledge that differentiates the organisation favourably from its competitors, placing it as a leader at least in its own sector.

While some authors have classified knowledge according to its nature, others have done so according to its level of importance in the actions of organisations, which, by contrasting these two dimensions, allows us to have a better reference for the identification and determination of knowledge in organisations.

Sources, creation and transfer of knowledge

With the intention of considering the actions that can allow knowledge to be obtained in the organisation, Tobin (1996) has suggested the following:

Buying knowledge, referring to the acquisition of products and new employees, an investment that is generally foreseen in the long term;

Renting knowledge, when this is required for a specific time and in the short term, considering the subcontracting of third parties, i.e. valuers or consultants.

Creation of own knowledge, resulting from research and expansion due to the use of the entity's own resources.

Likewise, Sveiby (1998) suggested the following sources of knowledge for organisations:

a.   People, with their experience, the result of their interlocution with the outside world and their own training;

b.   Organisations, i.e. through their Culture, Processes, Know-how and Intellectual Capital.

c.   The environment, considering internal customers, governance, socio-economic behaviour of the market as well as the results of scientific research.

In view of the above, we can underline that this intangible element as such possesses characteristics that qualify it as a living element and that there are several triggers for its generation.

Nonaka and Takeuchi (1995), considered by many to be the forerunners of C.G., stated that firms capable of innovating would be those that feel their actions in the creation of organisational knowledge, for this purpose they have suggested a sequence for the creation of knowledge in an organisation, through their Knowledge Spiral (Figure 1), where they also warn that knowledge must be distinguished in two dimensions of its creation, the epistemological, where the nature of this element is considered as such, and the ontological, which considers the context in which knowledge is generated, and this can occur in the individual and group, i.e. from individuals to groups and organisations.
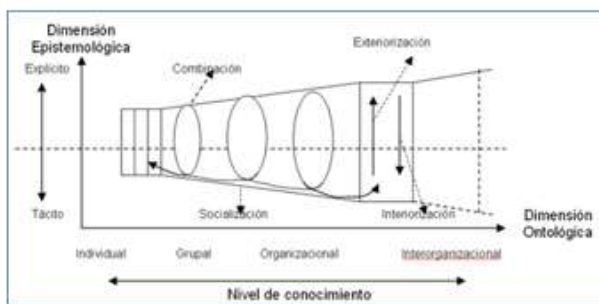

Figure 1 Knowledge Spiral

The above figure shows how knowledge is a process that begins at the individual level and moves in an ever-increasing interaction, in the form of a spiral that, according to the same authors, for its development, organisations that wish to apply it to their processes must at least contain in their characteristics: intention, autonomy, capacity for reinvention, sufficient information and simplified processes. From the previous model it can be concluded that the actions involved in the creation of knowledge are identified according to the aforementioned dimensions:

Epistemological

Transfer of (tacit) knowledge and its systematisation, to prevent this element from disappearing if a collaborator leaves the organisation.

Conformation of explicit knowledge.

Ontological

Collaborative work, for the transmission of knowledge and the creation of new knowledge, through practices such as work meetings and communication between collaborators, among others.

Inter-organisational relations, through communication with customers and suppliers.

The following figure (2) shows the phases of knowledge creation from another perspective, in the same spiral, according to these authors.

Figure 2 Phases of knowledge creation

In the figure above, it can be seen that the phases of knowledge creation according to these authors are as follows:

1.   Socialisation (tacit to tacit): refers to the acquisition of knowledge through the sharing of experiences between people through informal talks, oral expositions, traditions, accompaniment, imitation and practice.

2.   Combination (explicit to explicit): Consists of the creation of knowledge from the sum of two or more explicit knowledge and can be observed in different ways, i.e. mails, telephone conversations, videoconferences, meetings, rearrangement or classification of databases.

3.   Externalisation (tacit to explicit): Refers to the process of transforming the tacit knowledge of human experience into explicit, i.e. making the intangible tangible, not as easy as the previous ones, its most frequent support tools for this phase with the elements that allow the most general explanation, concepts, metaphors, analogies, hypotheses and models.

4.   Internalisation (explicit to tacit): Creation of knowledge in operation, i.e. the application of the explicit in practice. The analysis of acquired experiences is observed for the generation of new tacit knowledge in people, supported by operating manuals and schemes. It means the closing of one wave in the spiral and the beginning of another, which is supposed to be larger than the one that is ending.

Similarly, it can be affirmed that the palpable challenge of tacit knowledge is to discover how to identify, produce, transfer and manage it, even though ICTs can facilitate these actions, the first one, identification, is complex.

The knowledge of an organisation, according to Davenport and Prusak (1998), results from a process: knowledge generation, knowledge codification and transfer. Likewise, Cope (2001) refers to the obtaining of knowledge as an active process in which collaborators participate and which is increased through their constant action in dynamics such as: team work, attendance at congresses, conventions, etc., while codification supposes the fact of ordering this knowledge in a legible and understandable way, i.e. accessible to the people who require it in the organisation.

Some of the most representative tools and sources in the process of knowledge creation and transfer management are (Nieves and León, 2001): reports, databases, document bases, reports, articles, intranets, software, digital libraries, expert systems, patents, routines and operating standards, among others.

Knowledge maps are diagrams that allow to identify in a "visual" way the location of knowledge in the organisation. A knowledge map can be presented in various and diverse forms, but in its design it should at least contemplate (Gordon, 2000 and Stanford, 2001):

The processes and activities based on

The information and knowledge needed to carry them out.

The identification of people (internal customers, external customers, partners), who provide this information and knowledge.

How people use the information and knowledge available to them.

Methodology

A qualitative study with the support of some quantitative elements, in which ethnomethodology will be used to analyse why the people involved in the object of study do what they do, using semi-structured interviews, non-participant observation, as well as the review of documents from the unit being analysed, which will lead to an approach to this object, with a hermeneutic approach.

Due to the fact that qualitative studies (Ruiz, 2003) aim to analyse what is observed, rather than generalise or compare with others, the determination of a sample is essential in this type of methodology, where an intentional sample is chosen, i.e. the participants to be analysed will not be selected at random, but rather, and in many cases, intentionally.

Case study

The case study (Creswell, 1994), refers to the type of analysis where an object is delimited in type and space, where the elements of interest are observed and interpreted in detail, with the support of: interviews, observations and analysis of information in documents or electronic documents that allude to the operation of what is being described.

This type of analysis is relevant for social research (Stake, 1998), because its purpose is to observe the object of study in a particular and unique way. Likewise, Yin (2004) affirms that this type of analysis is empirical because it investigates an object in depth and in its environment, it tries to analyse from different sources and is based on previous theoretical foundations to design action guides for the collection of data and information that will allow it to resolve the question or questions in question.

Observation Units

According to Eyssautier (2002), the units of analysis are the structural elements of the hypothesis that are represented by objects, people or their behaviour.

For this research work, the units of analysis were: texts, libraries, documents and other documents specific to the unit analysed.

–   Instruments for the collection of information
–   Observation
–   Interview
–   Knowledge Maps
–   Questionnaire
–   Validity and reliability

For the validation of the results, the triangulation of information will be used (Norman Denzin, quoted by V. Janesick, 1998, in Álvarez-Gayou, 2003 and Ruiz, J., 1999).

Fieldwork

The fieldwork was carried out during almost six months in the analysed agency, where the documentary information of the organisation was reviewed in order to get to know the object of study from this point of view; instruments such as questionnaires were applied to measure teamwork and leadership, a semi-structured interview guide was also used and, as there were no knowledge maps as such, a form was created and filled in by each of the collaborators of the institution;

Results

In order to analyse the way in which the institution creates and transfers knowledge, we started by identifying the vision and mission of the organisation, as well as the knowledge of these among the collaborators. This allows us to identify the existence of a knowledge of how the institution tries to be managed, where the importance that this shows towards efficiency and quality is highlighted, also becoming aware of the importance of having qualified and trained personnel within the institution.

We asked the employees about their knowledge of the organisational vision and mission, and found that none of the employees said they "do not know the organisation's mission and vision", 20% said they "agree and strongly agree" with the initial statement, while the majority, i.e. 80% of those surveyed, said they "agree and strongly agree" with the initial statement, while the majority said they "do not know the organisation's mission and vision".

In other words, 80% of the respondents said that they "quite agree" in knowing the organisation's vision and mission. The above was analysed in order to observe what Peter Senge (1994) suggests, when he assumes that organisations for knowledge must have, among other characteristics, a vision that is shared among the collaborators, likewise, Stoner, Freeman and Gilbert (1996) affirm that a good leader will make sure that his collaborators know the organisational mission and vision. In the analysis, it was found that the employees are aware of these organisational elements, which implies that they know the meaning of the organisation.

During the field study it was observed that in the organisation studied, there were practices that reflect the socialisation of knowledge, i.e. the transfer of knowledge, from tacit to tacit, through informal talks, routines, follow-up and demonstrations; this is due to the fact that even when there are formal meetings with the work team, the physical space of the offices is reduced and seven of the collaborators share an office and their work desks are close to each other, this condition promotes the sharing of tacit knowledge.

Through a questionnaire on teamwork, it was analysed their perception that with the intention of fulfilling the objectives of the organisation and sharing their experience with the other collaborators, observing that even when it is considered a consolidated work team, only 50% of the respondents said they agree totally agree in the provision of knowledge sharing and half of the sample did not consider it so, this confirms what Bautista, Morgan and Romero (2010) said.

By assuming that knowledge and its "possession" is still seen as a factor of job stability among the members of the organisation who possess it. Considering the sharing of knowledge in work meetings, we analysed the perception of the collaborators in terms of their productivity, obtaining that the total of the sample was of the opinion that work meetings always have a favourable result, and we also inquired about their general position regarding the decisions agreed collectively, obtaining that the general feeling of the collaborators regarding the decisions taken for the good of the organisational objectives are taken collectively.

Trying to observe the confidence or freedom that the employees have to contribute ideas to improve the work or innovate in it, it was observed that even when there is the possibility of contributing ideas, the majority of the employees (60%) said they agreed, which gives meaning to the ontological part of the creation of knowledge (Nonaka and Takeuchi, 1985). In an attempt to reinforce the previous question, we asked about the possibility of employees being able to give their opinion and offer solutions to the problems that concern the organisation, obtaining that even though the answers were varied, 80% of those surveyed accepted being able to give their opinion or offer solutions to organisational problems.

The combination or systematisation of knowledge, explicit to explicit, can be observed through databases, emails, conversations, as well as the reordering of data, i.e. converting information into knowledge (Davenport and Prusak (1998); it was observed that one of the main functions of this unit consists in the elaboration of reports.

This is based on data obtained by providers of the tourism sector of the entity or other dependencies, which are subsequently used to inform internal and external clients periodically about the situation or forecast of tourism activity in specific periods. Some of the evidence supporting the above.

From the above it can be affirmed that the organisation focuses its attention on what Nonaka and Takeuchi would call the combination of knowledge, because they create more knowledge from other explicit knowledge, they externalise knowledge, that is, they transform tacit knowledge into explicit knowledge, because most of their processes and actions are documented and explained in detail in the procedure manuals shown and analysed during the field visit; They also promote internalisation, as these procedure manuals allow the sharing of knowledge and application of what is "already tested" and embodied in these documents to the operation, for process feedback and improvement. It was also observed that the unit promotes the codification and proper storage of organisational knowledge.

The creation of knowledge in the operation, i.e. from tacit to explicit, i.e. the analysis of acquired experiences for the generation of new knowledge is supported by the operation manuals or schemes, which even though no schemes as such and operation manuals for each job position were found, manuals for the performance of some functions were found.

Conclusions

The importance of this work in the Public Administration lies in the way in which public organisations that manage such an important resource as the tourist activity of the entity, must foresee the possibility of personnel changes at least every three years, At the time of these replacements of human resources, the "know-how" of the organisation is important to contain it within the organisation in a tacit rather than explicit manner, and on this same point, the explicit knowledge must consider the importance of the new human resources that are brought into the organisation, since their experiences will ultimately bring intangible elements that will allow for the increase and modification of the existing knowledge in the organisation.

With this work, it was possible to know that the analysed unit does carry out actions of creation and transfer of knowledge, showing in an imperative way the codification of tacit knowledge in explicit, that there is a sharing of knowledge due to the work team that was observed during the field work, It could also be seen that the leader knows the sector he regulates and is therefore able to guide and direct them on the basis of his experience, which helps his leadership to be defined and recognised by the workers, characteristics that favour the creation and transfer of knowledge, elements that will have a favourable impact on the achievement of their organisational objectives and the generation of higher levels of competitiveness in their field of action.

The lack of actions that show the internalisation of knowledge may be largely due to the constant change of managers in the unit (3 years, each administration of the Municipal Government), as the ways of operating or directing will always have some variance between one leader and another.

Which may not give continuity to the previous processes of creation and transfer of knowledge, thus inhibiting the growth of the organisation in its epistemological dimension and consequently its ontological dimension, the above contrasting the postulates on the Creation of Knowledge by Nonaka and Takeuchi, 1995.

The organisational elements that contribute to the creation and transfer of knowledge in the unit analysed were: a democratic, inspiring and integrating leadership style exercised by the Director of the unit; the Intellectual Capital, as it has professionally trained staff with experience in the tourism sector and in the unit; the low staff turnover that occurs in the unit; the facilities, work tools and information technologies available for the performance of activities, as well as the Relational Capital that occurs through the existing relationship with their direct interlocutors. In addition to the above, teamwork within the organisation allows the sharing and creation of new knowledge, based on tacit and explicit knowledge.

The tasks of creating and transferring knowledge in an organisation include more than just the appropriate use of information technology; it involves trust and cooperation between the people in the organisation, who must share an organisational vision and develop in an environment of continuous learning, both individually and collectively.

References

Álvarez – Gayou, J. (2003). Cómo hacer investigación cualitativa. Fundamentos y metodología. México: Paidós.

Angulo, E. y Negron, M. (2008). Modelo holístico para la gestión del conocimiento. Revista Científica Electrónica Ciencias Gerenciales Vol. 11, pp. 38 – 51. Recuperado de: www.revistanegotium.org.ve

Argyris, C. (1999). Conocimiento para la acción. Una guía para superar obstáculos del cambio en la organización. México: Granica.

Argyris, C. y Schon, D. (1978). Organizational Learning: A theory of action perspective. M.A.: Addison Wesley

Badaracco, J. (1991). The Knowledge Lick: Competitive Advantage Through Strategic Alliances. Boston: Harvard Business School Press.

Blacker, F. (1993). Knowledge and the theory of organizations: Organizations as activity systems and the reframing of managment. Journal of Management Studies, Vol. 30, pp. 863 – 884.

Canals, A. (2003). La G.C. Barcelona. Recuperado de: http://www.voc.edu/dt/2025/Index.html
Chin, T. (2003). Las organizaciones en un nuevo entorno globalizado. México: Mc Graw Hill.

Cook, N. y Yanow, D. (1993). Culture and Organizational Learning. Journal of Management Inquir (2)4. Recuperado de: http://jmi.sagepub.com/content/2/4/373.abstract
Cope, M. (2001). El conocimiento personal: un valor seguro. Madrid: Prentice Hall

Davenport, T. y Prusak, L. (1999). Ecología de la información. Porque la tecnología no es suficiente para lograr el éxito en la era de la información. México: Oxford Unviersity Press.

Drucker, P. (1993). Post Capitalist Society. Estados Unidos: Harper Business

Drucker, P. (2005). La administración en una época de grandes cambios. (2ª ed.) Buenos Aires: Sudamericana.

Eyssautier, M. (2002). Metodología de la Investigación: Desarrollo de la inteligencia. México: ECAFSA

González, A., Joaquí, C. y Collazos, C. (2009). Karagabi Km model: Modelo de Referencia para la Introducción de Iniciativas de G.C. en organizaciones basadas en conocimiento. Ingeniare, revista chilena de Ingeniería 2(17). Recuperado de: http://www.scielo.cl/pdf/ingeniare/v17n2/art11.pdf

Gordon, J.L. (2000). Creating knowledge maps by exploting dependent relationship. Know-ledge-based.systems Vol. 33, pp. 169 – 190. Recuperado de: www.akri.org/papers/es99a.htm

Hedlund, G. (1994). A model of knowledge management and the N-form Corporation. Strategic Management Journal. Vol. 15, pp. 73 – 90. Recuperado de: http://onlinelibrary.wiley.com/doi/10.1002/smj.v15:2%2B/issuetoc

Kogut, B. y Zander, U. (1992). Knowledge of the Firm, Combinative, Capabilities and the Replication of technology. Organization Science, Vol. 3, pp. 383 – 397.

León, S.M., Castañeda, V.D. Y Sánchez, A.I. (2007). La gestión del conocimiento en las organizaciones: procesos y métodos para medir. Acimed. (15,3). Recuperado en http://bvs.sld.cu/revistas/aci

Liebowitz, J. y Beckman, T. (1998). Knowledge Organizations: What every manager should know: Boca Raton: CRC Press

Nieves, L. Y. y León, S.M. (2001). La gestión del conocimiento: una nueva perspectiva en la gerencia de las organizaciones. ACIMED VOL. 9(2), PP. 121 – 126. Recuperado de: http://bvs.sld.cu/revistas/aci/vol9_2_02/aci04201.htm

Nonaka, I. (1991). La empresa creadora de conocimiento. Harvard Bussines Review, Recuperado de: http://biblioteca.ucn.edu.co/repositorio/Especializaciones/Esp.Psicologia-Organizacional/Desarrollo-PotenHumano/documentos/La_empresa_creadora_de_conocimiento_ok.pdf

Nonaka, I. y Takeuchi, H. (1995). La organización creadora de conocimiento. Como las compañías japonesas crean la dinámica de la innovación. México: Oxford.

Sena, J. y Shani, A. (1999). Intellectual Capital and Knowledge Creation: Towards and Alternative Franmework. Obtenido el 14/09/2011, de: http://scholar.google.com.mx/scholar?q=Intellectual+Capital+and+Knowledge+Creation+%2B+sena+%2B+shani&hl=es&as_sdt=0&as_vis=1&oi=scholart

Senge, P. (1994). La quinta disciplina. Buenos Aires: Granica

Spencer, J. (1996). Making Knowledge, Collective Practice and Penrose Rents. International Business Review, Vol. 3 pp. 4.

Sveiby, K. (1998). The new organizational wealth: managing and measuring intangible assets. San Francisco: Berret – Koelher Publishers.

Von Krogh, G. (1998). Care in Knowledge Creation. California Management Review, Vol. 40 (3), pp. 133 – 153. Recuperado de: https://www.alexandria.unisg.ch/publications/30617/L-en

Wiig, K.M. (2000). Knowledge managment: An emerging discipline rooted in a long history. Boston: Butterworth – Heinemann.

Tiwana, A. (2002). The knowledge management toolkit: orchestrating IT, strategy, and knowledges platforms. New Jersey: Prentice Hall.

Tobin, D. (1996). Transformational Learning: Renewing ypur Company through knowledge and skills. New York: John Willey.