

KNOWLEDGE MANAGEMENT: THE PROPOSAL OF A THEORETICAL MODEL

Roberta Rodrigues Faoro, Universidade de Caxias do Sul – UCS, roberta.faoro@ucs.br
Gustavo Sganzerla Martinez, Universidade de Caxias do Sul – UCS, gsmartinez@ucs.br
Marcelo Faoro de Abreu, Universidade de Caxias do Sul – UCS, marcelo.faoro@ucs.br

Resumo

As organizações atuais apresentam uma característica comum: o conhecimento é seu bem mais importante e simultaneamente, um dos mais difíceis de gerenciar. As organizações nem sempre contam com formas sistemáticas para codificar o conhecimento possuído, o que os leva a sofrer com perdas nativas de especialidades e conhecimentos de um nível pessoal. Aqui apresentamos o campo de gestão de conhecimento, que propõe a formalização do conhecimento organizacional. Este artigo pretende propor um modelo teórico de gerenciamento de conhecimento para ser usado em organizações lucrativas e sem fins lucrativos. O documento foi desenvolvido através de uma abordagem metodológica usando uma proposição teórica, juntamente com a revisão da literatura e a discussão teórica. Com os resultados obtidos, foi possível perceber que a presença de mecanismos tecnológicos e não-tecnológicos pode auxiliar o gerenciamento do conhecimento. Ao mesmo tempo, a presença de factores facilitadores e inibidores afeta as práticas de gerenciamento de conhecimento, onde estas devem ser devidamente tratadas. Por fim, foi possível observar várias ações que poderiam ser cumpridas, de modo que a gestão efetiva do conhecimento pode acontecer. Palavras-chave: gestão do conhecimento. mecanismos tecnológicos e não-tecnológicos. facilitadores e fatores inibidores.

Abstract

The current organizations present a common feature: the knowledge is their most important asset and simultaneously, one of the trickiest to manage. The organizations do not always count with systematic ways to encode the possessed knowledge, which leads them to suffer with losses native from specialties and expertise from a personal level. Here we present the knowledge management, study field that purposes the formalization of the organizational knowledge. This paper intends to propose a knowledge management theoretical model to be used in profit and non profit making organizations. The paper was developed through a methodological approach using a theoretical proposition alongside literature review and theoretical discussion. With the obtained results, it was possible to realize that the presence of technological and non-technological mechanisms can aid the knowledge management. At the same time, the presence of facilitator and inhibitor factors impacts in the knowledge management practices, where these should be properly treated. Lastly, it was possible to observe several actions that might be fulfilled, so the effective knowledge management can happen.

Keywords: knowledge management. technological and non-technological mechanisms. facilitator and inhibitor factors.

1 Introduction

When Analyzed the knowledge definition in Plato's dialogues, Gulley (1962) understood the knowledge as a truthful opinion followed by reason. The concept of knowledge is multifaceted with meanings in several layers. The history of philosophy, since the ancient Greek period, might be considered as a ceaseless search

for the meaning of knowledge (Nonaka, 1994). Thus, the knowledge is the most valuable information the humans own, and so, the hardest to manage. To overcome this problem, solutions must be found to use and explore this grateful resource (Davenport and Prusak, 1998).

According to Nonaka and Takeuchi (1997) when the concept of knowledge is inserted into the organizational environment, the real face of knowledge is revealed. The present firms, seek to be capable to respond to the challenges of a dynamic world, investing in mechanisms that grant a better approval of the existent knowledge. Still, the authors understand that the organizations are nestled in a highly competitive scenario, and intangible actives such as knowledge are being perceived as a possibility of value creation.

In this way, the knowledge management (KM) potentiates, in a significant way, the enhancement of the competitive criteria, raising the competitiveness from the organization performing the KM, and so, solidifying as the biggest source of appreciation and credibility (Tiago *et al.*, 2007). However, for the KM to thrive, the organizations need to create a set of functionalities and qualifications to perform the job of learning, distributing and using the knowledge (Davenport and Prusak, 1998).

With the aim to collaborate with this subject, this theoretical essay is prepared after the literature review and conceptualization of KM, creation, storing, sharing and using of knowledge, after, technological and non-technological mechanisms are presented, and then a theoretical model, which is the goal of this paper: to propose a KM model to be used in profit and non-profit making organizations.

2 Knowledge Management

There are two definitions commonly used in the scholar field to define the knowledge: *i*) tacit knowledge which refers to the knowledge from the individual and it is hard to be documented, formulated and communicated. This symbolizes an informal skill and has a cognitive definition consisting in beliefs that the subject takes for granted. This knowledge is relative to the individual perception, extremely subjective and individualized. *ii*) explicit knowledge represents the encoded knowledge. It is straightforward, and can be translated and verbalized using formal language. Its nature is more formal and it is easier to share (Polanyi, 1966; Nonaka, 1994).

The KM subject was firstly presented in studies from Nonaka and Takeuchi (1997). The KM is defined as “a systematic, organized, explicit and liberated process that directs the creation, sowing, application, renewing and update of knowledge to reach organizational goals” (Pillania, 2006, p. 120), in this moment, the company needs to act as a knowledge manager that, according to Freire *et al.* (2013) the KM needs to be promoted in a systematic and mapped way, being fully acquired by everyone involved in the process. The organization needs to ensure that the KM practices are not performed deliberately. Chan and Lee (2007) and Nonaka and Takeuchi (1997) defined KM as an internal multidisciplinary element in the companies that constantly uses the elements present in individual and group behavior, in the information technology and in the organizational structure, seeking to create values, develop proficiencies and innovations that result in new products,

processes, technologies and practices, assuring a competitive differential for the company.

As stated by Wild and Griggs (2008) the KM goals are broad and point:

- Supporting innovation through idea creation and probing the knowledge inside the company.
- Capturing the ideas and experiences to become them available and usable when and where is needed.
- Smoothing the process to find and reuse know how sources and experiences.
- Promoting the collaboration and sharing of knowledge.
- Enhancing the decision making quality and other intelligence tasks.
- Instigating the continuous learning.
- Understanding the value of intellectual assets, leveraging their value, effectiveness and exploration.

In their study, Fernandes *et al.*, (2015), presented factors that might cause impact in the KM practices. The inhibitor factors are the ones that bring troubles to the KM practices, they should be treated as challenges to be faced. The facilitator factors generally contribute to the KM policies. They ought to be maintained, amplified and stimulated.

Based on the study from Fernandes *et al.*, (2015) the Table 1 presents the facilitator and inhibitor factors in the internal context of current companies.

| Inhibitors | Facilitators |
|---|---|
| Values, personality, beliefs, motivations | Clear communication |
| Lack of communication skills | Enriching the learning |
| Cultural differences | Job swapping, promoting knowledge sharing |
| Lack of group stimulus | People responsible for arranging and sowing the knowledge |
| Small space for sharing | Exchange of ideas |
| Inadequate physical environment | Presence of knowledge portals |
| Lack of training | Adequate ways of sharing knowledge |

Table 1 - Inhibitor and facilitator factors
Source: Adapted from Fernandes *et al.* (2015)

In actual organizations, the present information is found in big amounts, and in a fragmented way, being passive to the culture practiced by the company, (Estrada, 2009; French *et al.*, 2009; Gagnon *et al.*, 2015) this company itself, through what was defined by Gagnon (2015) as a learning organization that constantly uses the KM mechanisms is able to promote the corporate learning, leading the actors involved to overcome problems and raise productivity and competitiveness (Mason, 2003).

Thus, it is needful that a company practices KM even with the barriers found, the KM manager must understand it and treat KM as a multidisciplinary subject, which needs a broad view. In this paper, the KM processes are defined as: knowledge creating, storing, sharing and using.

2.1 Knowledge Creation

As cited by Nonaka and Takeuchi (1997) the knowledge is created through information, whereupon the knowledge will be extracted and expanded. The authors also mention that the knowledge creation process is permeated by personal relations between who creates. Thus, the process is subject to personal filters that may interfere in the process. According to Firestone (2003) knowledge creation starts when there is a need, and a person or group will create knowledge for its need.

According to Ceptureanu and Ceptureanu (2010), the creation process requires that a person or group come with new ideas, products or processes. To create knowledge, the element involved needs to identify, transform and create tangible and intangible assets. Ferasso (2003) stated that in order for a company to create knowledge, it needs to identify the intellectual assets and transform them in competitive advantage; this is related to Bitkowska (2015) where the creation of knowledge depends directly on the organizational skill to deal with the multidisciplinary knowledge source. The creation might be sought through research, experiments and observations.

We are in an age defined as “knowledge age”, the current society is constantly referred as a “knowledge society” where are found organizations that have some common features:

the employees are highly skilled professional with high levels of education; they present a few tangible assets; using local groups of customers and providers to raise their knowledge basis. These features shows the crucial value of education and social relations in the new society, considering that the knowledge creation environments demand a lot more than technology, requiring people with constant dialogues (Schelsinger *et al.*, 2008. p.11).

Ceptureanu and Ceptureanu have proposed some techniques shown in Table 2 that might be used to create knowledge.

| Technique | Definition |
|---------------------------|--|
| Learn through observation | Observation is an interesting technique, it presents information wealth, which can be used to capture features of a spontaneous process. |
| Questionnaires | To interview a lot of people, one of the main steps is to develop a questionnaire, that can have open e closed questions. |
| Brainstorming | Small sessions made for idea sharing in an open and stimulator environment. |
| Documenting | To document existing methods (archiving information, reports, notes, e-mails). |
| Participating | Learn thought what is done is a great way to obtain knowledge. It is a mean to learn experimentally. |

Table 2 - Techniques for knowledge creation

Source: Adapted from Ceptureanu and Ceptureanu (2010).

The creation process intimately bonds with the social interaction with the presented subjects. The existing techniques that seek to aid this process vary from the simple learning with observation, where the prentice simply observes what is being

done and formulates its own knowledge; questionnaires realized to gather knowledge from a large group of people; brainstorming done to exchange ideas in short term; formal documenting that happens in all organizations and intends to create knowledge based on the performed processes and; the participation where the individual formulates knowledge through an empirical process.

2.2 Knowledge Storage

“Storing knowledge grants the coding and indexing of the knowledge to be used in the future. [...] storing knowledge is also related with the task to arrange it, ensuring better usage and understanding” (Karadshesh *et al.*, 2009, p. 70).

The final goal of the storage process is clear, it intends to reduce the losses related to personal expertise and experiences in a company (Beckman, 1997). Therefore, this is the step where the KM team looks to create a portrayal with the knowledge from the organization, acting as a repository and turning the knowledge available. About that, the stored knowledge might, in an effective way, ensure security to the company against the effects caused by the business (Argote, Beckman, Eppler, 1990).

Hence, this process seeks to turn the organizational knowledge into a code, in order to make it explicit, portable, organic, and the most comprehensible for who needs it (Davenport and Prusak, 1998).

There are ways that a company can realize this storing process, these systems intend to use conceptual models to store the knowledge (O’Leary, 2000):

- Documentation: the knowledge is stored through notes, reports and forms.
- Rules, where some patterns are created upon the previously acquired knowledge, and on top of it, methods and rules are formulated.
- Diagrams that try to visually represent the knowledge in a summarized way.

Then, the knowledge should, aside from being created, count with a suited way for the company to store it. Enabling that the knowledge rises in a coded and explicit way (Beckman, 1997). Only after the conclusion of this process, some channels to transmit and share this documented knowledge will be explored.

2.3 Knowledge Sharing

This is the step where the subjects exchange knowledge, transferring their intellectual property that has already been absorbed, generating a dynamic process where innovation and collaboration between the individuals will arise (Kim and Nelson, 2000). It is worth pointing out that the knowledge is never fully transmitted, the receiver will comprehend according to its background, and in this, might be included: personal experiences, values, opinions and beliefs (Paulin and Suneson, 2012).

According to Shannon and Weaver (1949) the sharing process is done towards two actors: a sender and a receiver. Studies, such as Szulanski (2000) reiterate the organizational learning theories that had successful knowledge transferences required a process of learning interactions that, moving further than a set of meaningless communications.

The sharing process in current companies is a competitive differential, acting as a foundation for group learning and is able to provide dynamism in knowledge creation. This migration will take the company and its professional to a whole new level (Rabelo *et al.*, 2012).

Rabelo *et al.*, (2012) also mentioned that to become effective, in-depth and motivator the knowledge sharing process has to consider the human complexities that are found in communicating, perceiving the world and relating with other individuals. To share, some thresholds must be settled, this thresholds branch from beliefs and personal assumptions and can function as a curb for the sender/receiver, if not treated in the right manner, the wide message exchanging idea may be impaired.

The previously presented notions about what sharing knowledge is might be used by companies as a KM system, as known as, information communication and technology (ICT). This ICT uses tools to reuse the information and share new and old solutions. In a study conducted by Lundberg and Lidelöw (2015), companies might use KM systems to standardize sharing processes. Through a platform idea, a system might be used to gather, share and transmit knowledge, thus, considered as a KM system. However, if a company uses ICT, this does not fully indicate that people will share more and more knowledge than before (Lundberg and Lidelöw, 2015, p. 225).

As stated by Cummings (2003) when reviewing the knowledge sharing process we can conclude that the efforts spent to realize this step require a greater focus rather than simply transfer specific knowledge. Companies can use a set of activities to share knowledge, such as: swapping documents, presentations, meetings, observations, job swapping. Consequently, when the knowledge is correctly shared, organized and managed points to an efficient way to document the intellectual assets found in people and in the organization structure (Zili *et al.*, 2016).

2.4 Knowledge Use

Using the knowledge is the last step proposed by KM, in fact, this is where the other three accomplished processes will materialize, there is a direct dependence with the creation, storage and sharing process. The righteous use of knowledge, when correctly managed and placed delivers power to the KM organization (Cameron, 2000; Becerra-Fernandez, Gonzalez and Saberwhal, 2004).

When concluding that the success of a project arises from the good use of all the processes regarding the KM, Davenport, De Long and Beers, (1997) mentioned that is harsh to measure and quantify the success of a project when the outcome of it is knowledge, and so, the authors present indicators that can be carefully gauged to identify the impact caused by KM:

- Growth in the organization resources. Such as people and pecuniary recurrence.
- Growth in the knowledge content and its use (amount of documents formally created by KM).
- Financial feedback for the KM activity and the company as a whole.

There are some determining factors for any application of KM, although, KM should not be considered neither the effective solution for any company to highlight in its environment nor the poison that will lead the company to ruin, KM is one of

the many elements that a good management presents (Davenport, De long and Beers, 1997). The mentioned factors are:

- The company infrastructure;
- standards;
- flexible knowledge;
- organizational culture friendly with the KM practices;
- clear language and proposals;
- multiple channels for transferring knowledge.

2.5 Technological and Non-Technological Mechanisms

Scarso and Bolisiani (2008) alerted for the fact that technological mechanisms perform a supportive role in knowledge processes, being dependents on the people and an organizational context for being implanted. In other words, besides the information technology, there is the need of suited organizational structures, presenting processes and gears that facilitate the experience sharing, with individuals bartering ideas and suggestions inside a project. So, there might be observed a complementarity relation between the different groups of coordinating mechanisms. With the need for information, some mechanisms can be more emphasized than others. Each organization trying to implement its mechanisms needs to assess its information needs, features of knowledge processes, and the management strategies for each company.

There is a great matter in the company to possess mechanisms to systematically enable the management. The company needs to promote the awareness for its contributors engage correctly in the KM processes, encouraging their participation to increment what has been realized by the KM managers (Olivera, 2000).

Feijoo, Ordaza and López (2015) brought a study regarding the barriers that was found to implement KM through staff portals. According to the authors, these portals are examples of technological mechanisms where there is a single access point of all the services that a company renders for its employees. The result of the study showed that some issues might be encountered when promoting this mechanism:

- Provide security and privacy for the users of the mechanism;
- raise the system usability with coaching to better understand the system functionalities and ease of use;
- support what is needed for the functioning of the portal;
- raise the user innovation skills, where they need to have access to the training resources and knowledge generated through the organization.

The authors also stated that the portal or the mechanism must cause changes in the internal process, bringing forward enhancements and turning into an organic way the task performed by the employee. There is a point where a lot of these mechanisms fail which is to naturally carry with itself the integration from old to new, this makes the mechanism to be seen as an odd and disruptive element for its users.

Strunga (2015) pointed one example of technological mechanisms used to promoted KM. The virtual learning communities (VLC) These offer flexibility for time and space constraints and carry possibilities for cooperating, specially recently where people develop a large amount of their tasks using computers and the

internet. The VLCs promote the learning between employees, where solutions can be mutually developed to a specific problem. This mechanism focus on the organization-employee relation, where the company can provide the experts in different types of problems.

Becerra-Fernandez, Gonzalez and Saberwhal (2004) classified technological mechanisms used to promote KM. The table 3 and 4 show, respectively, technological and non-technological mechanisms present in companies.

| Technological mechanisms | Application |
|---------------------------------|--|
| Learn doing | In this method, the knowledge is empirically gained by the individual that gets the knowledge on the ongoing process. |
| Training in the work location | The individual receive proper training on how to develop its task and gets knowledge. |
| Learn though observing | Opposing the learn doing item, in this, the individual formulates its knowledge observing other individuals performing their tasks |
| Face-to-face meeting | Though meetings, the individuals create knowledge in a way that they share their experiences with others. |
| Products recall | Mechanism used to learn with problems found in products from the company. |

Table 3 - Non-technological mechanisms

Source: adapted from Fernandes, Gonzalez and Saberwhal (2004).

| Technological mechanisms | Application |
|---------------------------------|--|
| Artificial intelligence | Using specialist systems to aid decision making and creating knowledge standards. |
| Computed based simulations | Ways used to simulate future behaving and try to predict the impact of one action in the future. |
| Databases | Acting as information repository to be accessed by other individuals |
| Videoconferences | Technological way to realize meetings where the individuals share experiences using computers. |

Table 4 - Technological mechanisms

Source: Adapted from Fernandes, Gonzalez and Saberwhal (2004).

Today, the technological and non-technological mechanisms are widely found in organizations, they seek to wage any kind of KM. When correctly introduced, these might grant competitive differential to companies, organizing and retrieving the extensive body of knowledge, raising collaboration between every related party and capturing and using the available knowledge. The greatest obstacle to be overcome when implementing any of these systems is to consider the features that each company presents, generating acceptance and a simple digestion.

3 Theoretical Model

The goal of this study is to present a theoretical KM model which might be used in profit and non-profit-making companies. The Image 1 shows this model. To

ramp it up, it was considered that KM depends on the inhibitor and facilitator factors disposed by the company. The theoretical model assumes that, for enabling KM, is necessary to use technological and non-technological mechanisms. Thus, as Figure 1 shows, the KM processes form a circle, that is, it does not have beginning nor ending, molding a knowledge spiral.

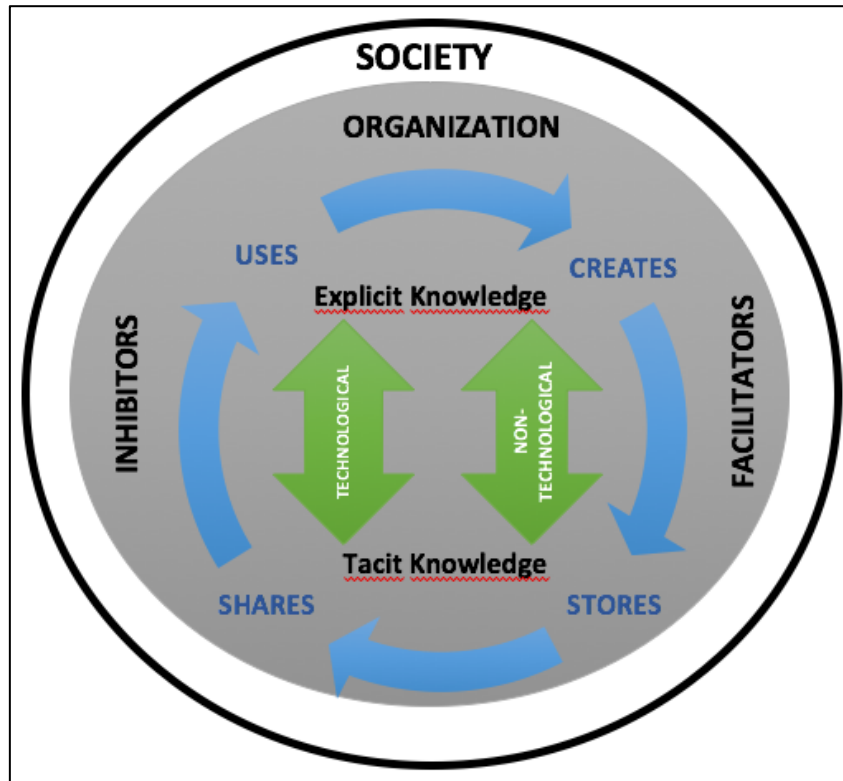


Figure 1 - Model of organizational knowledge management
Source: Formulated by the authors (2017)

The table 5 presents the dimensions, elements, and mainly, the authors that fomented the proposed theoretical model shown in Figure 1.

| DIMENSIONS | ELEMENTS | AUTHORS |
|-----------------|--|---|
| Creation | <ul style="list-style-type: none"> ▪ Informal chats ▪ Formal meetings ▪ Brainstorm ▪ Learn through observing, participating, questionnaires and documenting. ▪ Appointments to solve problems. ▪ Interdisciplinary and integrative team. ▪ Other social interactions (coffee breaks, dinner parties). | Nonaka and Takeuchi (1997) Carvalho (1998) Firestone (2003) Ferasso (2008) Schelsinger (2009) Ceptureanu and Ceptureanu (2010) Bitkowska (2015) |
| Storing | <ul style="list-style-type: none"> ▪ Indexing and coding knowledge to create a repository. ▪ Standardize the entries in the repository. ▪ Creation of rules, documenting and diagrams. ▪ Use of manual documenting. | Beckman (1997) Olivera (2000) O'Leary (2000) Argote, Beckman, Epple (1990) Davenport and Prusak (2008) |

| | | |
|-------------------------------------|--|--|
| | <ul style="list-style-type: none"> ▪ Information systems (e-mail, databases, knowledge management systems). | Karadshesh <i>et al.</i> (2009) |
| Sharing | <ul style="list-style-type: none"> ▪ Informal chats. ▪ Formal meetings. ▪ Informal interactions between parts (chitchats, coffee breaks). ▪ Requiring feedback; asking for help; letting others know what will be done; explaining the reason for doing things. ▪ Information systems (e-mail, websites, staff portals). ▪ Study groups (experiences, successes and distresses). | Shannon and Weaver (1949) Szulanski (2000) Kim and Nelson (2000) Cummings (2003) Paulin and Suneson (2012) Rabelo <i>et al.</i> (2012) Lundberg and Lidelöw (2015) |
| Use | <ul style="list-style-type: none"> ▪ Incorporate the created, stored and shared knowledge in the processes. ▪ Reuse existing knowledge in tasks. | Davenport, De Long and Beers (1997); Nagle (1999); Cameron (2000) Becerra-Fernandez, Gonzalez and Saberwhal (2004) |
| Technological mechanisms | <ul style="list-style-type: none"> ▪ Artificial intelligence. ▪ Computer based simulations. ▪ Databases. ▪ Videoconferences. | Becerra-Fernandez, Gonzalez and Saberwhal (2004) |
| Non-technological mechanisms | <ul style="list-style-type: none"> ▪ Learn doing. ▪ Training in the workplace. ▪ Learning through observing. ▪ Face-to-face meetings. ▪ Product recall. | Becerra-Fernandez, Gonzalez and Saberwhal (2004) |
| Inhibitor factors | <ul style="list-style-type: none"> ▪ Values, personality, beliefs, motivation. ▪ Lack of communication skills. ▪ Cultural differences. ▪ Lack on group incentive. ▪ Small space for sharing. ▪ Lack of training. | Fernandes <i>et al.</i> (2015) |
| Facilitator factors | <ul style="list-style-type: none"> ▪ Clear communication. ▪ Valuing the learning. ▪ Job swapping. ▪ Presence of people aiding to disseminate and arrange knowledge. ▪ Develop incentives and idea sharing. ▪ Presence of knowledge portals. ▪ Suited ways for sharing. | Fernandes <i>et al.</i> (2015) |

Table 5 - Theoretical table

Source: Formulated by the authors (2017)

4 Conclusion

This paper has as its objective to propose a theoretical model for KM that might be used by profit and non-profit-making companies, thus far, we should be aware that KM is much more related with culture and the methods already practiced rather than the use of a single technology. It is required to nourish habits, values and

activities that represent the good use of knowledge, including continuous actions that stimulate the creation, storing, sharing and using of the knowledge.

In this sense, the culture needs to accept to share its knowledge addressing problem solving, this essentializes the debate and the conflict, because the successes and mistakes must be shared and not penalized or hidden. In this thoughts, non-technological mechanisms and technological, such as software, can help the KM.

Besides, the KM is imbricated by inhibitor and facilitator factors that contribute to the creating, sharing, scattering and using processes. Inhibitor factors, in any level of existence, must be treated as challenges to be faced, so the company can achieve satisfying results in the KM path. At the same time, facilitator factors must be maintained, amplified, encouraged and stimulated by the managers (Fernandes *et al.*, 2015).

Therefore, the literature review, which has culminated in the proposal of a theoretical model for KM. Academically, based on the perspectives presented here, future studies might collaborate in a significant way with the theoretical model. Nevertheless, the model aids in other researches, either in the KM area or the other management fields, such as, people management, related to the holding of talents or intellectual assets, among others. Furthermore, another contribution to the scholar environment will be the availability of a theoretical model (Figure 1) seeking to analyze the impact of KM in organizations, which means that this model might be used as a reference for companies to evaluate their KM models and pursue higher efficiency.

A few empirical studies has systematically examined the relation between inhibitor and facilitator factors as a key for success, and the magnitude of using technological and non-technological mechanisms in KM. First, we state that there is no general consensus in how to define and operate the dimensions presented in Table 5. Second, different scales have been used to measure this dimensions. This presented discussion is limited in theoretical nature, thus being of a primal matter to the achievement of empirical studies seeking to validate or reject the present proposition.

References

ARGOTE, L.; BECKMAN, S. L.; EPPLE, D. The persistence and transfer of learning in industrial settings. **Management Science**, 36, p. 140-154, 1990.

BECERRA-FERNANDEZ, I.; GONZALEZ, A.; SABERWHAL, R. **Knowledge Management: Challenges, Solutions and technologies**. 1 ed. Upper Saddle River, NJ, USA: Prentice Hall, 2004. 386 p.

BECKMAN, Thomas J. T. **Methodology for knowledge management**. International Association of Science and Technology for Development (IASTED) AI and Soft Computing Conference, Banff, Canada, 1997.

BITKOWSKA, A. The Orientation of Bussiness Process Management toward the Creation of Knowledge in Entreprises. **Wiley: Human Factors and Ergonomics in Manufacturing & Service Industries**, v. 25, n. 1, p. 43-57, jan./feb, 2015.

CAMERON, P. Managing the wealth. **CMA Management**, vol. 74, n. 9, p. 46-49, 2000.

CEPTUREANU, S.; CEPTUREANU, E., Knowledge Creation/Conversion Process. Bucharest: **Journal of International Comparative Management**, v. 11, p. 150-157, 2010.

CHAN, Y.; LEE, S. Capabilities, processes, and performance of knowledge management: a structural approach. **Human Factors and Ergonomics in Manufacturing**, v. 17, n. 1, p. 21-41, 2007.

CUMMINGS, J., **Knowledge Sharing: A Review of the Literature**. The World Bank. Washington, 2003.

DAVENPORT, T. H.; DE LONG, D. W.; BEERS, M. C., Successful Knowledge Management Projects. **Sloan Management Review**; ABI/INFORM Global Winter, v. 39, n. 2, p. 43-57, 1997.

DAVENPORT, T. H.; PRUSAK, L. **Ecologia da informação: por que só a tecnologia não basta para o sucesso na era da informação**. São Paulo: Futura, 1998. 316p.

ESTRADA, N. Exploring perceptions of a learning organization by RNs and relationship to EBP beliefs and implementation in the acute care setting. **Worldviews on Evidence-Based Nursing**, v. 6, n. 4, p. 200-209, 2009.

FEIJOOA, H.; ORDAZA, M.; LÓPEZA, F. Barriers for the implementation of knowledge management in employee portals. **Procedia Computer Science**, v. 64, p. 506-513, 2015.

FERASSO, M. **O processo de criação de conhecimento em empresas localizadas em clusters industriais: um estudo multi-caso no setor de biotecnologia na França e no Brasil**. 2008. 208 f. Dissertação (Mestrado em Administração) - Universidade Federal do Rio Grande do Sul, Porto Alegre, 2008.

FERNANDES, P. F., MENDIETA, A. C., DA SILVA, M., LEITE, N. Fatores facilitadores e inibidores às práticas de gestão do conhecimento em uma grande organização brasileira do setor industrial. **Gestão & Planejamento**, v. 16, n. 2, p. 222-239, May/Aug. 2015.

FIRESTONE, J. M. **Enterprise information portals and knowledge management**. Amsterdam: KMCI/Butterworth-Heinemann, 2003.

FREIRE, P. S., UENO, A. T., DIAS, M. A. H., DOS SANTOS, N.; Ferramentas de avaliação de gestão do conhecimento: um estudo bibliométrico. **International Journal of Knowledge Engineering and Management**, v. 2, n. 3, p. 16-38, Jul/Oct 2013.

FRENCH, B.; THOMAS, L. H.; BAKER, P.; BURTON, C. R.; PENNINGTON, L.; RODDAM, H. What can management theories offer evidence-based practice? A comparative analysis of measurement tools for organizational context. **Implementation Science**, v. 4, n. 28, 2009.

GAGNON, M.; PAYNE-GAGNON, J.; FORTING, J.; PARÉ, G.; CÔTÉE, J.; COURCYG, F. A learning organization in the service of knowledge management among nurses: A case study. Quebec. Elsevier: **International Journal of Information Management**, v. 35, n. 5, p. 636-642, October 2015.

GULLEY, N. **Plato's Theory of Knowledge**. Oxford: Routledge, 1962.

KARADSHESH, L.; MANSOUR, E.; ALHAWARI, S.; AZAR, G.; EL-BATHY, N. A Theoretical Framework for Knowledge Management Process: Towards Improving Knowledge Performance. **Communications of the IBIMA**, v. 7, p. 67-79, 2009.

KIM, L.; NELSON, R. R. **Technology, learning, and innovation: Experiences of newly industrializing economies**, Cambridge, UK: Cambridge University Press, 2000.

LUNDBERG, M.; LIDELOW, H. Social motivations for knowledge sharing in construction companies, **Procedia Economics and Finance**, v. 21, p. 224-230, 2015.

MASON, R. M. Culture-free or culture bound? A boundary spanning perspective on learning in knowledge management systems. **Journal of Global Information Management**, v. 11, p. 20-36, 2003.

NONAKA, I. A dynamic theory of organizational knowledge creation. **Organization Science**, v. 5, n. 1, p. 14-37, 1994.

NONAKA, Ikujiro; TAKEUCHI, Hirotaka. **Criação de conhecimento na empresa**. 9. ed. Rio de Janeiro: Campus, 1997.

O'LEARY, D.E. Management of Reengineering Knowledge: AI-Based Approaches, International Journal of Intelligent Systems in Accounting, **Finance and Management**, v. 9, p. 107-118, 2000.

OLIVERA, F. Memory systems in organizations: an empirical investigation of mechanisms for knowledge collection, storage and access. **Journal of Management Studies**, n. 37, v. 6, p. 811-832, 2000.

PAULIN, D.; SUNESON, K., Knowledge Transfer, Knowledge Sharing and Knowledge Barriers – Three Blurry Terms in KM. **Electronic Journal of Knowledge Management**, v. 10, n. 1, p. 81-91, 2012.

PILLANIA, R. K. State of organizational culture for knowledge management in Indian industry. **Global Business Review**, v.7 n.1, p.119-35, Feb., 2006.

POLANYI, M. Tacit dimension. New York: Doubleday, 1966.

RABELO, R. A.; FERENHOF, H. A.; RADOS, G. V.; SELIG, P. M., **Perspectivas & Gestão do Conhecimento**, v. 2, n. 1, p. 21-35, Jan./Jun. 2012.

SCARSO, E.; BOLISANI, E. Communities of practice as structures for managing knowledge in networked corporations. **Journal of Manufacturing Technology Management**, v. 19, n. 3, p. 374-390, 2008.

SCHLESINGER, C. C. B; REIS, D. R.; SILVA, H. de F. N; CARVALHO, H. G. de; SUS, J. A. L. de; FERRARI, J. V.; SKROBOT, L. C.; XAVIER, S. A. de P. **Gestão do Conhecimento na Administração Pública**. Instituto Municipal de Administração Pública, Brazil, 2008, 130 p.

SHANNON, C. E.; WEAVER, W. **The mathematical theory of communication**, Chicago: University of Illinois Press, (1949).

Knowledge management: the proposal of a theoretical model

STRUNGA, A. The Integration of Virtual Learning Communities into University Knowledge Management Models. **Procedia- Social and Behavioral Sciences**, v. 197, n. 25, p. 2430-2434, Jul. 2015.

SZULANSKI, G. The process of knowledge transfer: A diachronic analysis of stickiness. **Organizational Behavior and Human Decision Processes**, v. 82, n. 1, p. 9- 27, 2000.

TIAGO. M. T. B; COUTO, J. P. A; TIAGO, F. G; VIEIRA, A. C, Knowledge management: an overview of European reality, **Management Research News**, v. 30, n. 2, p. 100-114, 2007.

WILD, R.; GRIGGS, K. A model of information technology opportunities for facilitating the practice of knowledge management. **VINE: The journal of information and knowledge management Systems**, v. 38, n. 4, p. 490-506, 2008.

ZILL, J. C.; DAL TOÉ, R. A.; VIEIRA, A. C. P.; DOS SANTOS, G. S.; Desafios para a explicitação do conhecimento no ambiente universitário. **International Journal of Knowledge Engineering and Management**, v. 5, n. 13, p. 99-122, 2016.

| | |
|---|----------|
| Direitos de cópia - creative commons. | |
| Recebido em: | 27-11-17 |
| Aprovado em: | 13-02-18 |
| ID do artigo | 2273 |
| Editor Científico: Prof. Dr. Osni Hoss, Ph.D. | |