The Post Nonaka Concept of Ba: eclectic roots, evolutionary paths and future advancements

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ABSTRACT
This paper investigates and analyses the concept of ba – or enabling context - in the fields of information science, information systems and management/business literature in order to understand its conceptual evolution, discussions, applications and expansion since its introduction in 1998 by Nonaka et al. The qualitative methodology is bibliographic and comprises – among others - the methods of citation analysis and content analysis. A resulting selection of 135 papers, 4 dissertations/theses and 4 books constituted the research's final database. Data analysis consisted of three flows of activities: data reduction, data displays (in the forms of both conceptual and mind maps) and conclusion drawing/verification. The results point out to the identification of four major groups of enabling conditions – social/behavioral, cognitive/epistemic, informational and business/managerial - which can be singly or freely combined into different knowledge processes – creation, sharing/transfer and use – occurring in different levels of interactions – individual, group, organizational and inter-organizational. Based on these results, a decision cube is proposed in the form of a framework for designing enabling contexts in knowledge organizations. The conclusions suggest that the concept of ba and its underlying concepts are indeed *sine qua non* conditions for organizational knowledge creation and innovation processes, though ba is still both theoretically and empirically under-explored. Organizations interested in pursuing knowledge management (KM), innovation and ba may wish to be guided by the enabling conditions presented in this paper.

Keywords
Nonaka, the concept of ba, enabling conditions, knowledge management, enabling context, ba.

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INTRODUCTION

Knowledge creation is a fragile organizational process, particularly towards the nature of knowledge itself: fluid, dynamic, intangible, tacit and explicit, embodied in individual and groups, socially constructed, and constrained by individual and organizational barriers (von Krogh et al. 1997, 2000). In this paper, knowledge is approached through a constructionist perspective, as human cognition is not an act of representation and not just a machine for information processing and logical reasoning. In the constructionist perspective, cognition is an act of construction and creation (Maturana and Varela, 1987), as well as knowledge is tacit, explicit and cultural (Choo,1998). Knowledge resides in one's cognition as well as in between creative heads with synergetic purposes (Alvarenga Neto 2007, 2008).

Organizational knowledge creation is generally associated with "knowledge-based views and theories of the Firm" (Grant, 1996; Nonaka & Von Krogh, 2009) and "knowledge management" (KM), being the latter a controversial, complex and multifaceted subject. In spite of the fact that the term (KM) is not yet stable, there's been a growing interest worldwide within the past two decades - from academics to practitioners - in the management of organizational knowledge and its related topics, such as "organizational epistemology" (Tsoukas,2005), "knowledge creation processes" (Choo,1998), "knowledge-based theory of the firm and ba" (Nonaka et al.,2006), "enabling context and conditions" (von Krogh et al., 2000)", "knowledge types" (Blackler, 1995), "knowledge assets" (Boisot, 1998) and "knowledge taxonomies" (Alavi and Leidner, 2001), among others.

The management of organizational knowledge is really about managing the context and conditions by which knowledge can be created, shared, and put to use towards the attainment of organizational goals (Alvarenga Neto, 2008, von Krogh et al., 2000). Therefore, this paper's main objectives are to investigate and analyze the concept of ba – or enabling context - in the fields of information science, information systems and management/business literature in order to understand its conceptual evolution (if any), discussions, applications and expansion since its

introduction in 1998 by Nonaka et al. (Nonaka and Konno, 1998; Nonaka et al., 2000; Nonaka and Toyama, 2002; Nonaka et al., 2006). Our presumptions suggested that the post Nonaka concept of ba had eclectic roots from different fields of studies, therefore leading us to the identification of evolutionary paths. If these presumptions proved right, future advancements towards de designing, planning and implementation of ba for KM and innovation could be proposed. This paper is structured in five major parts: (i) this introduction, (ii) the methodology (iii) the literature review, (iv)data analysis and (v) conclusions. The study and its results shall be presented in the lines below.

METHODOLOGY

The research method adopted is bibliographic in nature, using a range of bibliometric tools to carry out citation analysis and content analysis. To begin with, we searched the ISI Web of Knowledge databases to retrieve articles on "ba," "concept of ba," and "Ikujiro Nonaka." Search results showed that four of Nonaka's papers were cited 592 times since 1998 in papers all over the world, with an average of 49 citations per year (hereafter, we'll refer to Nonaka's original papers on ba as "1st generation papers" and all of the other papers citing Nonaka's ba or enabling context concepts as "2nd generation papers"). In addition, we expanded our search to retrieve more papers discussing the concept of ba and its underlying concepts. We added search terms such as "enabling context", "enabling conditions" and "enabling knowledge creation" to the existing descriptors, as these terms were highly cited in the references of the "1st generation papers". This expanded search included the sources above and also the following sources (FIGURE 1): (i) University of Toronto digital library resources; (ii) e-journals containing "KM" in their titles; (iii) Google Scholar and Book Search (searching for material not previously published in the form of journal papers) – extra search criteria using authors' names from the "1st generation papers" or authors cited by the "1st generation papers"; (iv) papers cited in the references of the "1st generation papers", papers sent to us by peers or found serendipitously.

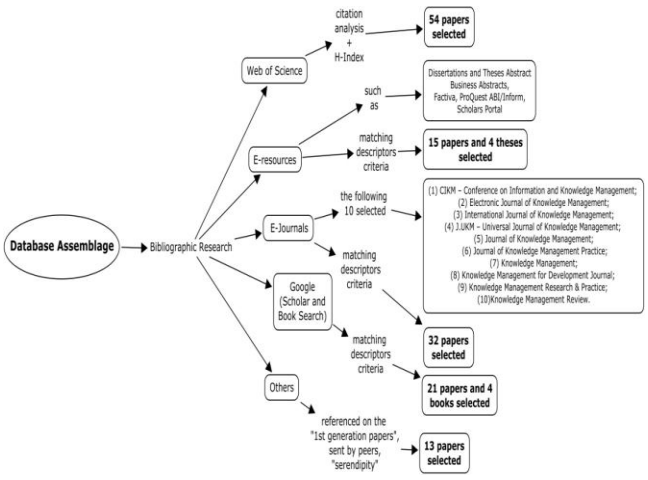

Figure 1. Literature search strategy.

This expanded search strategy resulted in a corpus of 135 papers, 4 dissertations and 4 books that constituted the study's database. The time-span covers papers published from 1991 to 2009 and the authors were academics and practitioners from many different counties such as Japan, Finland, Portugal, Brazil, Canada, the Netherlands, Spain, France, Greece, Great Britain, South Korea, USA, Australia, China, Italy, Israel, Germany and South Africa among others.

Miles & Huberman (1984) suggested that qualitative data analysis should occur in three concurrent flows of activities: (i) data reduction, (ii) data display, and (iii) conclusion drawing/verification (or in this study, the extraction of categories). Displays in the form of conceptual maps proved useful for all three flows of data analysis, especially in identifying analytical categories. Seven data reduction cycles were necessary in order to analyze and synthesize the literature. Concept maps were created using CmapTools, a software environment developed at the Institute for Human and Machine Cognition that allows researchers to construct and analyze large representations of complex domains (Cañas et al., 2004).

LITERATURE REVIEW

Nonaka and Konno (1998) started the discussion that led to the concept of ba by asking: *"Is it possible to actually manage knowledge like other resources?"* In order to address this question, they introduced the concept of "ba", roughly translated into the English word "space". They stated that the concept of "ba" was proposed by Japanese philosopher Kitaro Nishida (1990) and further developed by Shimizu (1995). This "space for emerging relationships" can be physical (e.g., office, dispersed business space), virtual (e.g., e-mail, teleconference), mental (e.g., shared experience, ideas, ideals), or any combination of them. It is stressed that the difference between "ba" and ordinary human interaction is the goal of knowledge creation: *"we consider 'ba' to be a shared space that serves as a foundation for knowledge creation*" (Nonaka & Konno, 1998, p.40). Nonaka and Toyama (2002) provide another useful summary of the ba concept:

"[…] knowledge does not just exist in one's cognition, rather, it's created in situated action. Ba offers a context and is defined as a shared context in motion, in which knowledge is shared, created and utilized. Ba is a place where information is given meaning through interpretation to become knowledge, and new knowledge is created out of existing knowledge through the change of the meanings and contexts. […] Ba can emerge in individuals, working groups, project teams, informal circles, temporary meetings, virtual space, such as e-mail groups, and at the front-line contact with the customer. Ba is an existential place where participants share their contexts and create new meanings through interactions. Ba is a way of organizing that is based on the meaning it creates, rather than a form of organizations such as a bureaucracy or network. […]ba involves various contradictions."

(Nonaka and Toyama, 2002, p.1001)

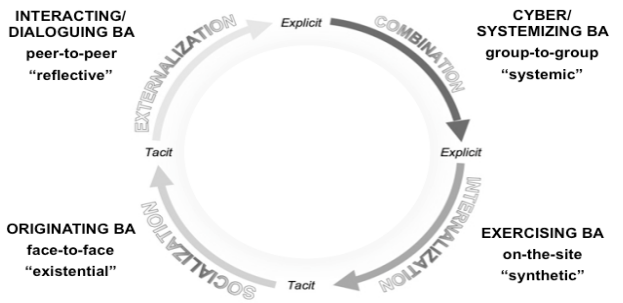

Figure 2. **Four types of Ba (adapted from Nonaka and Konno, 1998; Nonaka, Toyama, and Konno, 2000).**

The concept of "ba" offers an integrating conceptual metaphor for Nonaka's SECI model of dynamic knowledge conversions and it is discussed from this perspective - that organizational knowledge creation is a dynamic and continuous interaction between tacit and explicit knowledge. Four types of "ba" correspond to the four stages of the SECI Model (FIGURE 2) and each "ba" supports a particular conversion process, therefore speeding up the process of knowledge creation.

Nonaka's et al. (2000, 2002, 2006) propositions for a dynamic organizational knowledge creation theory are synthesized in FIGURE 3, where ba is one of the components of each:

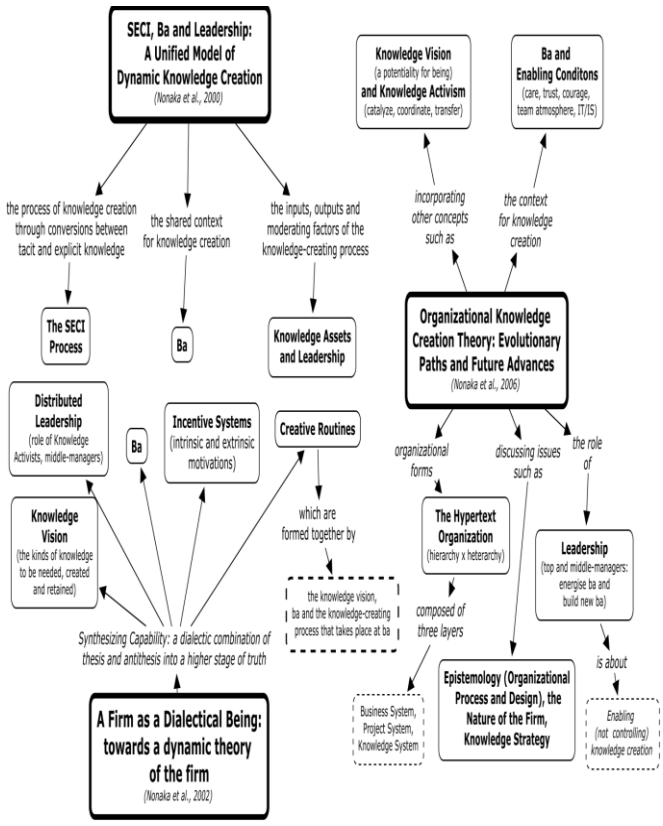

Figure 3. Theory of organizational knowledge creation (Nonaka et al., 2000, 2002, 2006). Adapted by the authors.

Nonaka et al.(2000) shed more light on the concept of ba by suggesting that the four types of ba are defined by two dimensions of interactions: (i) the type of interaction (individually or collective) and (ii) the media used in such interactions, whether face-to-face contact or virtual media such as books and e-mails.

Nonaka and Toyama's (2002) goal is again the proposition of a dynamic theory of the firm (or a knowledge-based view of the firm) where ba is quintessential (FIGURE 3). They argue that a firm can create new knowledge and capability that go beyond the balancing point in the existing frontier with its synthesizing capability, which is embedded in its knowledge vision, its ba, its creative routines, its incentive systems and its distributed leadership.

Finally, Nonaka et al. (2006) discuss ba and enabling conditions such as care, trust, courage, teams atmosphere and information technology, among others, as well as other issues such as the concepts of "knowledge vision", "knowledge activist" and the "hypertext organization".

At this point of our literature review, it is already possible to establish links between an eastern/Japanese concept of ba and its similar western approach - mainly represented in the works of Von Krogh (1998) and Von Krogh et al. (1997, 2000) - involving concepts and ideas such as "enabling context", "enabling conditions", "knowledge activists" and "care in knowledge creation". These discussions and the analysis of our study's database will be our goal in the next section, as we'll try to understand the concept of ba's discussion, development, applications and expansion since its introduction by Nonaka et al. (1998, 2000, 2002, 2006).

DATA ANALYSIS

In this section, we'll briefly analyse our research's database. Through our data analysis processes, particularly in the phases of data reduction, five major categories emerged as ways of grouping our research findings, namely (FIGURE 4): (i) conceptual/theoretical, (ii) social/behavioural, (iii) cognitive/epistemic, (iv) informational and (iv) business/managerial. With the exception of the first major category (conceptual/theoretical), the remaining four - henceforth called "the four groups of enabling conditions" - were observed in different knowledge processes – creation, sharing/transfer, use – and in different levels of interaction – individual, group, organizational, inter-organizational (FIGURE 4). They were also not solely use in the context of the SECI process (e.g. Jyrama and Ayvari, 2006; Miles et al., 2000), as advocated by Nonaka and colleagues (1998, 2000, 2002, 2006). This might be seen as an evolution in terms of application of ba.

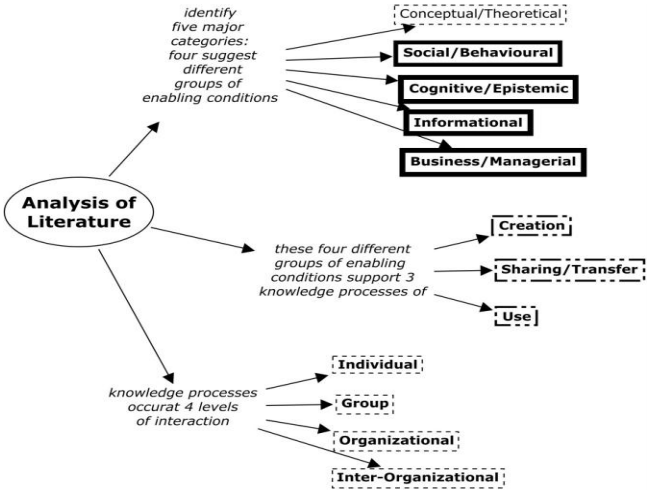

Figure 4. "Four Major Groups of Enabling Conditions" as a result of data analysis processes. Source: developed by the authors.

Concerning the first major category – conceptual/theoretical, our analysis demonstrates that the concept of ba is still theoretically under explored, although its discussion has somehow been expanded to different contexts or as a component of other theoretical propositions. The concept of ba was used for – or as a basis of/part of - new conceptual or theoretical propositions/discussions; or papers where further theoretical and empirical support was proposed to the concept of ba by Nonaka and colleagues (FIGURE 5).

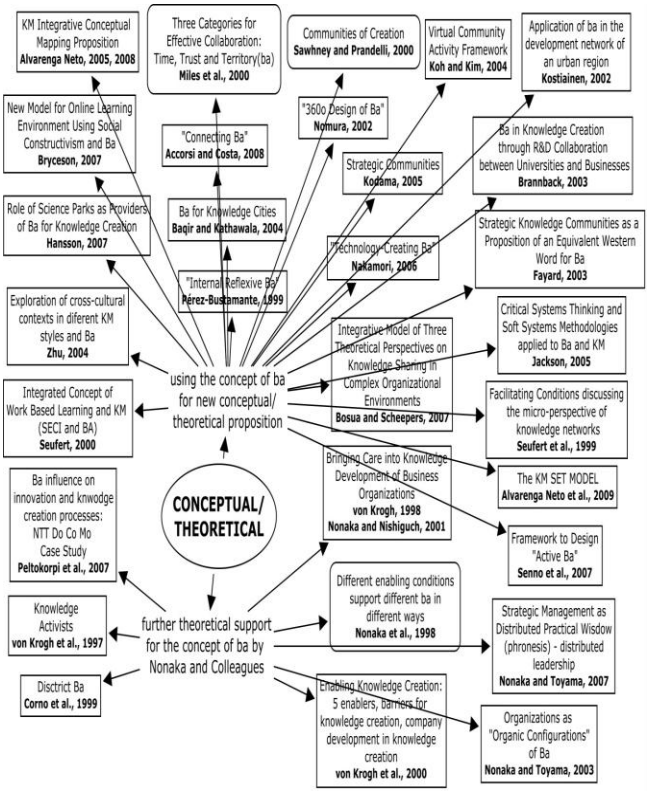

Figure 5. Theoretical/Conceptual analysis. Source: developed by the authors.

At this point of our analysis, it's important to bear in mind that different groups of enabling conditions support different ba in different ways, as well as the fact that ba and enabling context are used as synonyms. As mentioned above, the four remaining major categories constitute four different groups of enabling conditions. These groups of enabling conditions can be used singly or in any combination with the purpose of creating or enhancing an organization's enabling context or ba.

The first group of enabling conditions is **social/behavioral** and involves norms and values that guide relationships and interactions in order to create a fertile ground for knowledge creation, sharing and use, as well as for facilitating innovative thinking. Our main findings suggest that the following issues should be taken into account, as they give rise to particular behaviors that should be communicated to and pursued by personnel and managers, as well as serve as guidelines for HRM assessments, such as hiring, training, utilizing, maintaining and compensating:

- care, mutual trust, lenience in judgment, active empathy, courage and access to help (Inkpen, 1996; von Krogh, 1998; Burton, 2002; Lee and Choi, 2003; von Krogh et al., 2008);
- tolerance to "honest" mistakes and mutual respect (Alvarenga Neto, 2007, 2008);
- actively encouragement of participation, nurture of innovating language while avoiding hypercorrection (von Krogh et al., 2000);
- accessibility of individuals and attentive inquiry (Nonaka and Nishiguchi, 2001);
- interaction and open dialogue (Gold et al., 2001; Sabherwal and Becerra-Fernandes, 2003),
- collaboration (Lee and Choi, 2003);
- autonomy of freedom (Ford and Angermeir, 2004);
- contextual social interactions and evolving relationships (Peltokorpi et al., 2007).

Here are a few excerpts that support our findings:

> *"[…]However, in our search for enabling conditions, we have found values guiding relationships in organizations to be of particular importance, and the value of care in organizations relationships is one key enabling condition. […]Bear in mind that what will make or break the transformation into a 'knowledge-creating company' will not be the overall structural approaches of "managing knowledge", but your sensitivity to the way people relate" (von Krogh, 1998)*

> *"[…]to accomplish this it's necessary to stress the importance of employee interaction for building relationships and contacts that enable the share of different perspectives." (Gold et al., 2001)*

Our second group of enabling conditions – **cognitive/epistemic**, is related to common knowledge or shared epistemic values and commitments. It's a *sine qua non* condition the existence of shared beliefs and ideas, as well as people with different backgrounds and mental models, enabling a context where contradictions and diverging ideas are seen as positive issues, not as obstacles for knowledge creation and innovation. Our findings are structured around the following issues that might constitute guidelines, especially into addressing complex problems and the need for developing an organization's accelerated solutions environment:

- exposure to a great variety of data, insights, questions, ideas and problems (von Krogh et al., 1997);
- application of creative techniques for metaphors, analogies and insights (von Krogh et al., 1997; Burton, 2002);
- existence of a sound mix of people from various cultural backgrounds and functional areas (von Krogh et al., 1997), existence of diverse perspectives and backgrounds (Gold, et al., 2001; Peltokorpi et al., 2007) and existence of inter-organizational communities formed by people with different mind-sets and mental models (von Krogh et al., 2008);
- existence of formal and informal groups or communities (e.g., microcommunities of knowledge) with their own rituals, languages, norms and values (von Krogh et al., 1997); creation of shared spaces and shared goals (Lechner and Dowling, 2003; von Krogh et al., 2008; Balestrin et al., 2008; Brannback et al., 2008), and the sharing of mental models (Burton, 2002);
- development of dialectical thinking (Nonaka and Toyama, 2002) and a legitimate language (von Krogh et al., 2000), as well of awareness of a company paradigms, in terms of values, strategic intention and mission (von Krogh et al., 2000);
- provision of enabling conditions such as creative chaos (Inkpen, 1996), intention and requisite variety (Johnson, 2000);
- production and sharing of practical knowledge, meeting in different constellations and creation of common knowledge (Alavi and Leidner, 2001; Roth, 2003).

The following excerpts are supportive of our findings:

> *"[…] The existence of formal and informal situations so that the businessmen can share abilities, experiences, emotions and know-how, by means of face-to-face communication, promoted an environment of intense sharing of tacit knowledge." (Balestrin et al., 2008)*

> *"[...] being exposed to a great variety of data, insights, opportunities, questions, ideas, issues and problems; picking on those signals and formulating "process triggers" in the form of questions 'why, how, what, where, when and who'; being aware that the space or a context for knowledge creation requires an innovative blending of architectural innovations, intervention and moderation techniques (encouragement, setting of the rules, applying of creative techniques for metaphors, analogies and insights); and a sound mix of people from various cultural backgrounds and functional areas. […]these communities are characterized by its own rituals, languages, norms and values […] in the minds of each lives the image of their communion." (von Krogh et al., 1997)*

> *"[…] recognition of new businesses opportunities might require an innovative vocabulary that includes words like nutraceuticals, infotainment, edutainment, or cybershopping. […] the articulation of new knowledge requires a process in which people move from broad distinctions to increasingly fine ones. […] a company's strategic intent, vision or mission statements, and core values constitute its paradigm or worldview. Paradigms influence an organization's daily life: defining the themes discussed in management meetings, the language used, the routines followed and even data and information employees are likely to search for as well as how the data should be interpreted." (von Krogh et al., 2000)*

The third group of enabling conditions is **informational,** regarding IT (information technology), IS (information systems) and IM (information management), as well as information/communication processes. Our findings are suggestive that a combination of multiple IT/IS tools, systems and applications - guided by IM processes design based on a company's strategic issues, knowledge vision and communication strategy - are powerful enabling conditions, especially in the knowledge processes of sharing/transferring and use, within the interactional levels of groups and organizations. It's important to bear in mind that IT is only an enabler and not an end in itself. Here's a summary of tools, systems and applications cited in our analysis along with a few suggestions on the way they can be effectively applied:

- internet, intranet, yellow pages, business information systems, groupware, databases, datawarehousing, datamining, document repositories, software agents, repositories of information, best practices and lessons learned (von Krogh et al., 1997,2000; Nonaka et al., 1998; Alavi and Leidner, 2001; Sabherwal and Becerra-Fernandez 2003; Chou and Wang, 2003; Lee and Choi, 2003);

- information systems designed to support collaboration, coordination and communication processes as a mean to facilitate teamwork and increase an individual's contacts with other individuals (Alavi and Leidner, 2001);
- e-mails and group support system in order to to increase the number of weak ties in organizations (Alavi and Leidner, 2001; Chou and Wang, 2003);
- computer simulation and smart software tutors to support individual learning in intranet environments (Alavi and Leidner, 2001; Tee, 2005);
- computer-mediated communication as a way to increase the quality of knowledge creation by enabling a forum for constructing and sharing beliefs, for confirming consensual information and for allowing expressing of new ideas (Alavi and Leidner, 2001);
- problem-solving systems based on a technology like case-based reasoning (Sabherwal and Becerra-Fernandez, 2003);
- virtual communities of practice (Pam and Leidner, 2003; Alvarenga Neto, 2007,2008).

The following excerpts are supportive to our findings:

> *"[...]Data warehousing and data mining, documents repositories, and software agents, for example, may be of great value in cyber ba. We further suggest that considering the flexibility of modern IT, other forms of organizational ba and the corresponding modes of knowledge creation can be enhanced through the use of various forms of information systems." (Alavi and Leidner, 2001)*

> *"[...]This study suggests that organizational ba and information distribution can be facilitated by the use of various capabilities of modern IT. For example, IS designed for supporting electronic repositories, collaboration, communication, e-mail, and simulation software, can facilitate teamwork, exchanging and organizing knowledge as well as individual learning." (Chou and Wang, 2003)*

At last, the fourth major group of enabling conditions is **business/managerial** and the issues considered are ways that managers can, in fact, directly construct, influence, interfere and manage an organization's effective ba or enabling context by commitment and action. This group of enabling conditions also considers business processes where the concept of ba was actually applied in different researches. Here is a summary of our findings that can be useful guidelines for the management of enabling contexts in knowledge organizations:

- organizational culture: a critical issue to facilitate knowledge creation, a central issue to be shaped in a firm's ability to manage its knowledge more effectively and the most prominent enabler (Inkpen, 1996; Perez Bustamante, 1999; Gold et al., 2001; Lee and Choi, 2002; Roth, 2003; Alvarenga Neto, 2007,2008; Adenfelt and Lagerstrom, 2008; von Krogh et al., 2008;);
- organizational structure: involves organizational structure that foster solid relationships and effective collaboration, such as project teams, cross-divisional units and empowered divisions, among others (von Krogh et al., 2000; Lee and Choi, 2003; Alvarenga Neto et. Al., 2009); systems-based approach, hypertext organization (Gold et al., 2001, Nonaka et al., 2006); autonomous and self-organizing teams (Peltokorpi et al., 2007);
- organizational and inter-organizational processes: involves the application or studies/research of the concept of ba into business processes such as the management of salesforces (Bennet, 2001), ex ante project risk (Cuellar and Gallivan, 2006), supply-chain (Wu, 2008), inter-organizational healthcare communities (von Krogh et al., 2008), firms in networks (Lechner and Dowling, 2003), transnational projects (Adenfelt and Lagerstrom, 2008), family business context (Brannback,et al., 2008), industrial districts (Corno et al., 1999) and collaborative inter-organizational R&D projects (Johnson, 2000);
- human resources management and organizational learning initiatives/projects: regards reward systems linked to knowledge-sharing (von Krogh et al., 2008) and the existence of flexible learning objectives (Inkpen, 1996); the cultivation of care through incentive systems, mentoring and training programs in care based behavior, project debriefing and other forms of learning-oriented conversations (von Krogh, 1998); use of apprentice and mentors to transfer knowledge, brainstorming retreats or camps, employee rotation areas, OJT, learning-by-doing and learning by observation (Sabherwal and Becerra-Fernandez, 2003); development of adequate team-atmosphere (Zárraga and Bonache, 2005);
- architectural innovations: creation of meeting and sharing organizational spaces/points (Balestrin et al., 2003; Lechner and Dowling, 2003; Alvarenga Neto, 2008); design of virtual and physical layouts and workplace environments (von Krogh et al.,1997; Alvarenga Neto, 2007,2008); promotion of regular knowledge conferences and supporting of microcommunities of knowledge (von Krogh et al., 2000); stimulus to social and informal gatherings (Bennet, 2001);
- emergence of "knowledge facilitators" and "knowledge activists": such as epistemologists, care specialists, knowledge managers, information analysts, CEO, CKO, project managers and middle managers, among others (von Krogh et al., 1997, 2000; Roth, 2003; Alvarenga Neto, 2007,2008;Nonaka et al., 2006); a company as a knowledge activist (von Krogh et al., 2008); role of mediators as enablers in knowledge creation (Jyrama and Ayvaari, 2005);

- leadership: concerns leadership styles and roles of leadership (von Krogh et al., 2008; Ford and Angermeier, 2004); leadership commitment (Inkpen, 1996); "selling of foresight" by providing overall direction and the knowledge vision of a firm (von Krogh et al., 1997,2000); leadership's tasks in constructing ba, creating enabling conditions and setting the pace for knowledge dynamism (Nonaka et al., 1998); phronesis (intellectual virtue) and flexible and distributed leadership (Nonaka and Toyama, 2007); role of top-management directing the knowledge-creation processes by creating visions and the role of middle-managers bridging top-management visions with the chaotic reality at front line, also managing and interlinking ba (Peltokorpi, et al., 2007);
- strategy and knowledge vision: communication of the company's strategy and knowledge visions (Alvarenga Neto, 2007,2008); instill a knowledge vision (von Krogh et al., 2000; Peltokorpi et al., 2007).

The following excerpts confirm our findings:

"[…] Ba is not a concept associated with any particular size of business or organizational structure; rather, it appears that the extent of ba within an enterprise depends on managerial attitudes, traits and dispositions." (Bennet, 2001)

"[…]analyze how organizational conditions, technology adoption, supplier relationship management and customer relationship management affect knowledge creation through SECI modes, and various ba, as proposed by Nonaka and Konno, in a supply chain" (Wu, 2008)

FIGURE 6 illustrates the four different groups of enabling conditions

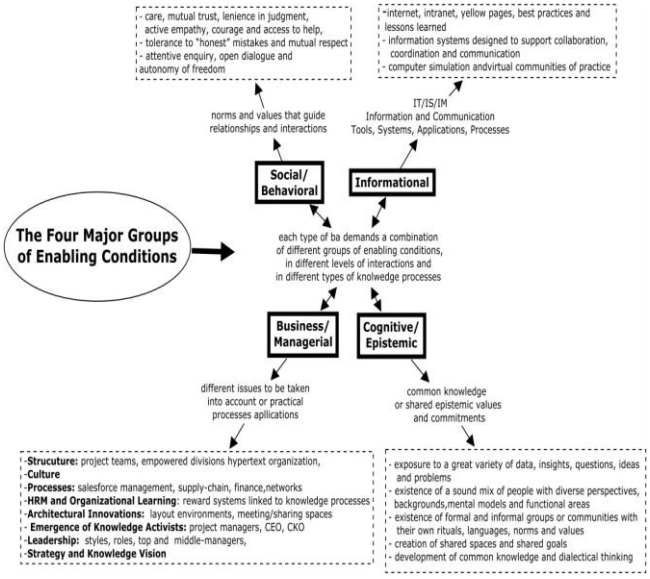

Figure 6. Analysis of the four major groups of enabling conditions. Source: developed by the authors.

CONCLUSIONS

This paper's main goal was to investigate and analyze the concept of ba – or enabling context - in the fields of information science, information systems and management/business literature in order to understand its conceptual evolution, discussions, applications and expansion since its introduction in 1998 by Nonaka et al. FIGURE 7 synthesizes the overall study and the expansion of the concept of ba, bringing light to its unique features (eclectic roots and evolutionary paths) such as concepts, forms, emergence, types, case studies, multiple discussions and applications, as well as suggestions for future research:

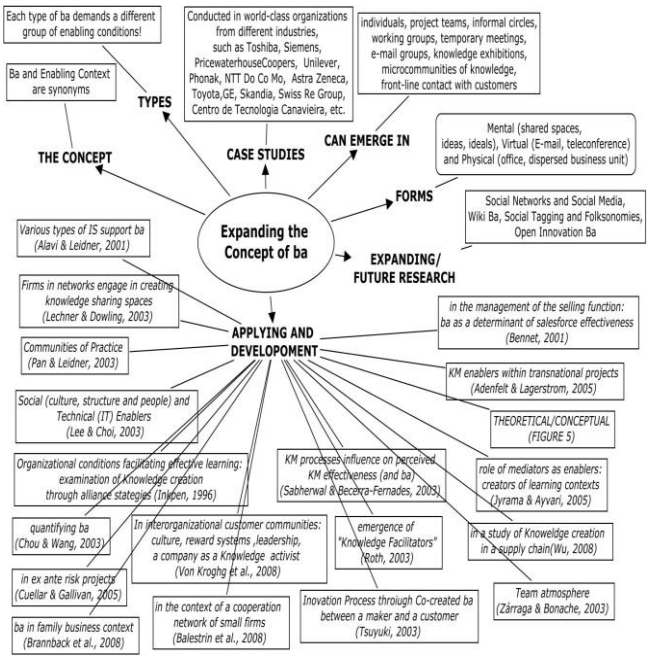

Figure 7. Expanding the Concept of ba. Source: developed by the authors.

The results pointed out to the identification of four major groups of enabling conditions – social/behavioral, cognitive/epistemic, informational and business/managerial - which can be singly or freely combined into different knowledge processes – creation, sharing/transfer, use – that occur in different levels of interactions – individual, group, organizational, inter-organizational. For this reason, a decision cube is proposed in the form of a framework for designing enabling context in knowledge organizations (FIGURE 8). These findings can be insightful for managers interested in creating and/or developing effective ba or enabling contexts to foster knowledge creation and innovation in their organizations, as they can utilize these frameworks to analyze, discuss, apply, manage and commit to specific combinations of enabling conditions based on their awareness of knowledge processes and levels of interaction. The conclusions suggest that the concept of ba and its underlying concepts are indeed *sine qua non* conditions for organizational knowledge creation and innovation processes, though ba is still both theoretically and empirically under-explored. Nevertheless, we have found that the concept has somehow been expanded as part of other theoretical discussions and/or in different contexts, but still demands further exploration, exploitation and development. Concerning the management of enabling contexts in knowledge organizations, the study revealed that the main arising challenges rely on all of the issues comprised on the four groups of enabling conditions identified, most especially social/behavioral – norms and values that guide social contextual interactions, thus providing a fertile ground for knowledge creation and innovation - and business/managerial – concerning organizational culture and structure, change management, leadership and the development of new human resources management systems for connecting knowledge assets and performance, thus achieving the necessary speed to agile, flexible and innovative in the 21st century's knowledge society. A research agenda for ba (future advancements) is suggested in the fields of open innovation, social networks – such as wikis, blogs, social tagging, among others - and epistemic communities.

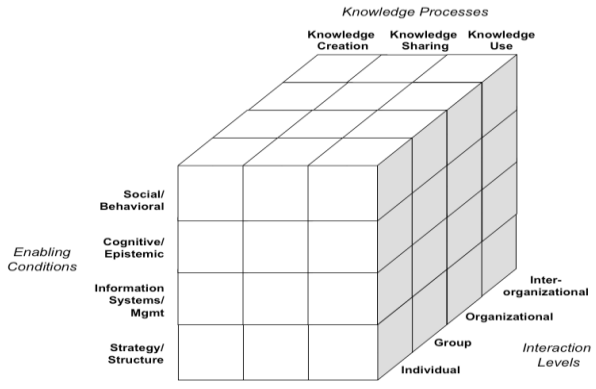

Figure 8. Framework for designing enabling contexts in knowledge organizations. Source: developed by the authors.

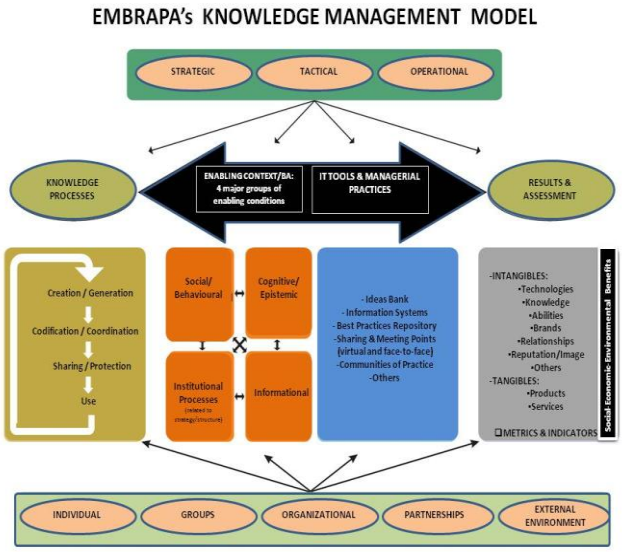

Figure 9. Brazil's Embrapa KM Model and ba. Source: developed by the authors.

Finally, as we speak, a research project is being conducted at Embrapa - The Brazilian Agricultural Research Corporation – by one of the authors of this paper. The four groups of enabling conditions were identified at Embrapa, though we couldn't yet measure the importance of each and the overall results. Embrapa's just finished it's KM Model and building and energizing ba is where all the energy is being driven to (FIGURE 9).

The results of the research at Brazil's Embrapa and its relations with the concept of ba will be published soon.

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