Primary knowledge management practices applied in Brazil, Russia, India and China (BRIC) industries from 2001-2010

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Abstract

Purpose – *This study aims to expose the main knowledge management (KM) practices applied in BRIC (Brazil, Russia, India and China) industries using scientific literature published in the Scopus database from 2001 to 2010.*

Design/methodology/approach – *A search was performed in papers selected from the Scopus database, which houses the KM practices of industries in BRIC countries.*

Findings – *The results show that Brazil, Russia and India have an easier way of converting tacit knowledge into explicit knowledge compared to China, where informal relationships of trust and friendship play a special role within organizations, as well as where the political structure (communism) is an intervening factor. Brazil, Russia and India practice similar KM mechanisms such as the use of technology, process standardization and electronic data management. They also model the positive experiences of western companies. In China, interpersonal relationships shape the tacit and explicit features of organizations.*

Research limitations/implications – *The methodological filter could potentially limit the volume of responses, as not every case study can demonstrate the usual practices of KM. Empirical studies are able to capture the nuances and even provide a holistic picture of these practices.*

Practical Implications – *The results have practical implication, in particular. They are expected to help managers and workers to better comprehend KM practices in BRIC countries or even suggest new KM practices in the business.*

Originality/value – *The main discussion of this paper brings together a large range of KM practices applied in BRIC, addressing similarities and differences between KM deployments.*

Keywords *BRIC, Knowledge management, Knowledge management practices*

Paper type *Research paper*

1. Introduction

The importance of knowledge control in organizations has seen a steady and significant incline in recent years. Acquisition, creation, sharing and retention of knowledge have become synonymous with competitive advantage; therefore, the more a company manages its knowledge, the greater its potential for technological development and innovation. Davenport and Prusak (1998) state that the only sustainable competitive advantages an organization can have are what it knows, how efficiently it applies its knowledge and how quickly and consistently it can acquire and create new knowledge. However, as important as the means and techniques of spreading knowledge, Bhatt (2001) emphasizes the need of integration between the parties, i.e. people, techniques and technology that are able to effectively sustain a competitive knowledge management (KM) environment.

In terms of management chain and strategic planning, an efficient KM is crucial to an organization for it to achieve economic development and increased relevance compared to

> **"In Brazil, the main KM practices are closely connected to the people and intellectual capital development, in which human resource departments play a special role."**

its competitors. For Nonaka and Takeuchi (1997), the objective of KM is to capture the knowledge of each worker and convert it into something the company can use. From the moment individuals transform tacit knowledge (contained in their minds and obtained through experiences) into explicit knowledge, the process begins its transformation into organizational learning.

Many companies have left their home terrains to explore other frontiers, redirecting their plants to developing countries such as those classified as BRIC (Brazil, Russia, India and China) in an effort to establish stable economic and social growth. It is necessary to understand how companies manage their knowledge and use it as a strategic resource to achieve results and to innovate their processes and products.

Economic indicators of BRIC industries suggest a steady increase until roughly a decade ago; however, the historical, social and cultural differences of these countries suggest that they all abide by a particular KM. The central productive characteristics of each BRIC country, as described by Ardichvili *et al.* (2012) and Yao and Liu (2011), portray China as a major world producer, India as a hub exporter of services and also highly skilled labor force in technology, Brazil as the greatest grain exporter in Latin America and Russia as a global energy exporter. The nuanced natural and intrinsic factors of each country contribute to a higher level of economic growth compared to most industrialized nations in the past two decades.

Furthermore, Livermore (2012) addresses leadership in different cultural contexts, where BRIC rely on foreign businessmen who are familiar with a comparable cultural labor profile to develop other skills and flexibility to acquire and incorporate aspects of a culture that is geographically remote.

The purpose of this research is to demonstrate the main KM practices used by BRIC industries by highlighting the scientific literature published in the Scopus database from 2001 to 2010. The extant literature tends to approach KM as a unique and isolated phenomenon in each country or region, rather than as a process of integration and cultural development that a manager needs to develop. Through KM analysis, it is possible to understand how – and how much – KM is currently and historically applied in BRIC organizations.

2. Knowledge management in BRIC industries

With many industries migrating to BRIC countries, especially those headquartered in the northern hemisphere, Western executives' face the imminent approach of globalization as organizational business management adapts to a cultural complexion.

The way managers from Brazil, China, Russia and India will face cultural complexion is open to a number of influences, including educational practices, environmental predictability, power distance, confidence, link to quality etc. (Strohschneider, 2002; Baird *et al.*, 2007), and, in this regard, these sentiments interfere, either positively or negatively, in knowledge sharing.

The spread of the explicit KM in the BRIC countries began with the migration of international industries to these countries, which have implemented, in general, modern management

techniques (Puffer and Mccarthy, 2011). Until then, what happened was the maintenance of the informal organizational knowledge.

2.1 Knowledge management practices

Knowledge is the main asset of any organization, facilitating competition and innovation. In this scenario, the entire process that permeates the knowledge becomes important, as its production until its dissemination, being crucial to management (Torres *et al.*, 2012).

According to Dias (2014), KM involves complex and multidisciplinary characteristics that affect all departments in a business. The convergence between KM models and the practice of creating, capturing, sharing and applying knowledge requires effective management and an acute understanding of each contributing part.

The process of KM involves interconnected practices that form a creative management network. These practices aim to: (i) achieve competitive advantage, (ii) encourage collaboration between coworkers who do not have the ability to share knowledge, (iii) recycle best practices and (iv) spread formerly consolidated knowledge within the organization (Terra, 2000).

There are many definitions of KM, according to the literature, and a number of ways to categorize it; however, for the purposes of this research, the following excerpt expresses the characteristics that make knowledge a valuable asset:

> [. . .] organizing the main policies, practices, processes and technological tools gives a better understanding of process identification, validation, dissemination, sharing and use of strategic knowledge to generate results (economic) for the company and benefits for employees (Terra, 1999).

KM practices are most commonly used by companies to control actions that acquire, create, retain and share existing knowledge within the organization. The management of these intangible assets ensures an efficient and innovative technological process and, consequently, increases competitiveness (Nonaka and Takeuchi, 1997; Probst *et al.*, 2002; Terra, 1999).

According to the literature, organizations use a wide range of KM practices; however, companies need to adapt them to their needs, culture and broader organizational strategies. McDermott and O'Dell (2001), in this sense, emphasize that the organizational culture plays an important role in the success of a knowledge management effort. The authors report that there is no right way to get people to share their knowledge or even encourage workers to use KM practices, but it will mainly depend on the values and style of an organization.

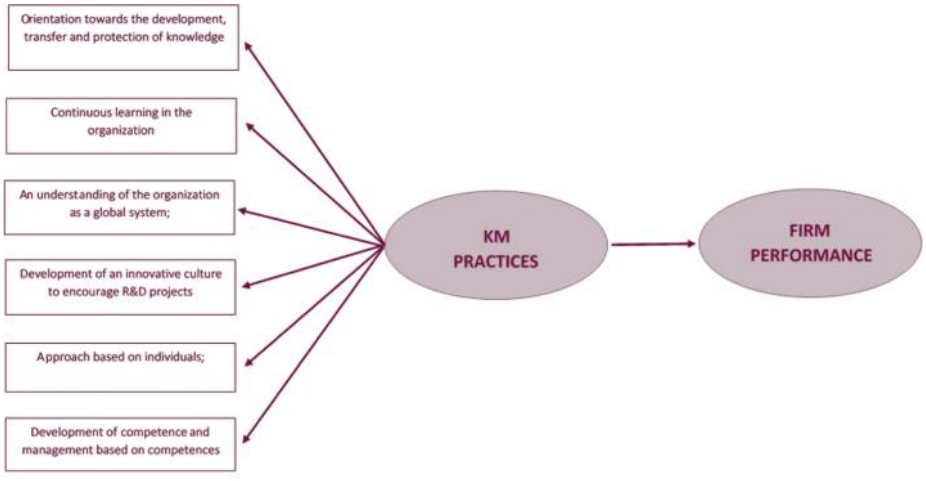
Marqués and Simón (2006) proposed a theoretical model of KM practices to verify the relationship between these practices and overall performance in an organization (Figure 1).

In Brazil, Pereira (2005) created a similar model showing KM functions in an organizational scenario and proposed the implementation of KM practices that look for the knowledge processes operation (Figure 2).

Notice that KM practices are strongly related to personnel management and intellectual development. According to Francini (2012), managers must be able to apply human capital and intellectual output to an embedded service in a new product or system. Human capital

"...Indian organizations try to involve people with the skills and competencies necessary to foster increased organisational knowledge."

Figure 1 Theoretical model

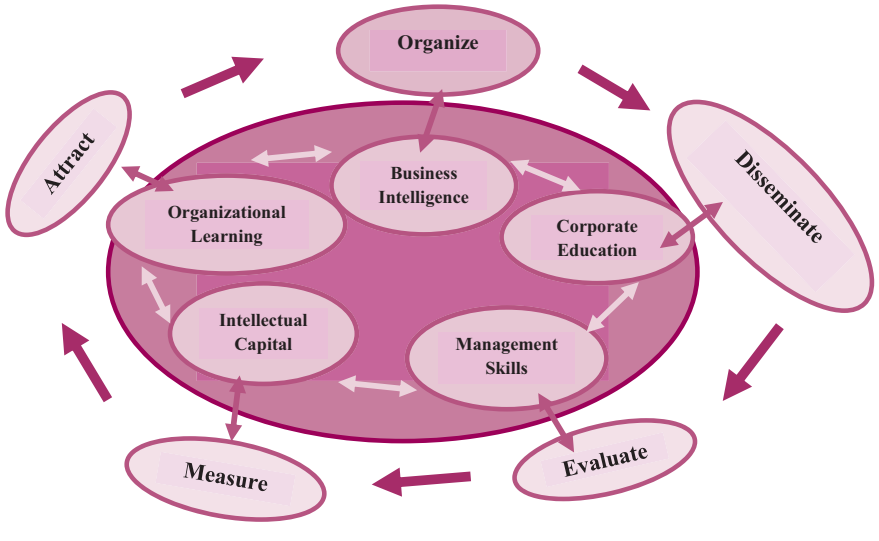


Source: Marqués and Simón (2006)

involves specialties, experiences and skills. KM requires polished executive skills, illustrating a primary focus in companies that engage in KM. KM practices must be aligned with the strategy and culture of the parent company to increase the probability of achieving – and surpassing – objectives and goals.

Buckley and Cartes (2002) investigated the impact of KM on the organizational structures of three American corporations. Discovering that none of the companies had a single source of knowledge or any implemented practices, the authors concluded that each company or subsidiary had to focus on combining their asset- management programs with knowledge procurement. To do so, they would need to observe various global and regional models and mirror those dynamics.

Figure 2 Knowledge management practices and functions



Source: Adapted Pereira (2005)

> "Knowledge management in Russia is carried out through internal and external training of employees."

While the literature offers no concrete measures for successful KM implementation in organizations, some practices are commonly applied to manage information and knowledge. Companies like Dow Chemical Company, 3M and Monsanto have implemented such practices as intellectual capital management and organizational memory in an effort to promote efficient knowledge management. These industries understand the need to transform intangible capital assets into something measurable and concrete.

Ericson and Siemens use their own technologies to implement KM practices, ensuring that knowledge sharing and retention remain priorities in the organization. These companies engage in information retrieval and data storage management in the form of the electronic document management (EDM), web-based intranet and artificial intelligence systems.

Savvy organizations recognize that knowledge is an asset – perhaps the only one that grows over time – and well-managed knowledge fosters competitiveness and innovation, both of which are crucial to the success of organizations in a global market.

2.2 BRIC industries and knowledge management in organizations

The BRIC acronym – Brazil, Russia, India and China – was coined in the early twenty-first century by economist Jim O'Neill of the global financial group Goldman Sachs. The alignment occurred because, at the time, these countries shared a number of characteristics, including relatively stable economies, an economically attractive labor force and large geographies and populations. To O'Neill *et al.* (2011), these assets indicated that the countries would continue to outperform others in the long term, reinforcing their growing importance in the global economy.

The evolution of socioeconomic indicators in BRIC countries is attributed to industrial attractiveness practices during the 1980s and 90s in their respective governments (Biggemann and Fam, 2011). As a result, these countries have attracted significant foreign direct investment (FDI) from North American countries (Hunya and Stöllinger, 2009).

Bingwen and Huibo (2010) define FDI as a lasting investment held in a company that operates, or will act, in a different country, namely that of the investor. It is the acquisition or installation of an industry in another country. Adequate infrastructure as well as robust education, health and housing systems tend to attract FDI (Prado, 2014); however, they do not necessarily attract investment (Nunnenkam, 2002; Quinn, 1999). Market size, market openness, economic stability and natural resources, on the other hand, are critical qualities of global attractiveness in developing countries (Jadhav, 2012).

In BRIC industries, global facilities provide technical sharing and administrative practices, as well as the transfer of technology and expertise enhancement for the host country (Bresser-Pereira, 1976; Archibugi and Pietrobelli, 2003). Because acceptable practices and behaviors in the host country often differ from those in the countries of origin, managers face challenges such as knowledge transfer, competition between subsidiaries and cultural friction (Ferreira *et al.*, 2010).

To ensure more effective management and avoid any mishaps, many organizations have sought to invest in and standardize their KM practices. According to Bitencourt and Azevedo (2006), the departure of an employee implies, for example, more than the loss of mere operational knowledge, but rather the undisclosed operations and strategies of the company. Similarly, the maturation of a new employee can cause a degree of

organizational suffering until the employee is assimilated and can contribute experience to their new role.

3. Methodology

Wanting to expose the different KM practices used in BRIC industries through the scientific literature, Gil's (1991) concept was used to categorize this research. This research is classified as qualitative, specifically a documentary search. It has an exploratory approach in regard to its objective and its technical procedure is a survey.

A document derived from the Scopus database was constructed in April 2015, which compared the most common KM practices employed by BRIC industries from 2001 to 2010. This period was chosen because 2001 was the year the term "BRIC" was created and South Africa joined group in 2011, thereby disrupting continuity of data.

The survey was constructed through the Scopus database where more than half of the applicable publications came from Europe, Latin America and Asia (Vieira and Gomes, 2009), while the Web of Science database yielded a number of American and Western Europe publications (Meho and Yang, 2007). The criteria used for this survey was determined as follows:

- in the Scopus website, "Document Search" was selected as the search feature;
- in the "Search for" field, the country name was entered and "Knowledge Management Practices" was added as a keyword;
- later, in "Search Tips", the options "Article Title, Abstract, Keywords" were selected;
- according to previously established criteria, a date range of 2001 to 2010 was chosen;
- in the "Document Type" field, the option "Article or Review" was chosen; and
- after finishing the first stage of research, a "Second Quest" was added on the results screen. At this time of the search, the word "Industrial case study" was inserted in the "Within Results" field, as the goal was to select only those case studies that included KM practices in the pre-selected countries. This filter could potentially limit the volume of responses, as not every case study can demonstrate the usual practices of KM. Empirical studies are able to capture the nuances and even provide a holistic picture of these practices.

Table I shows the resulting number of items found in each step of the survey.

For Brazil, 196 articles with the predetermined keywords were found. Then, using the method outlined as the "Second Search," nine articles remained. From this result, five articles were excluded because they were not aligned with the theme, showing no relationship with KM practices. The others (four) were considered related to KM practices in Brazilian companies.

In regard to Russia, 32 articles were initially found, but, when the search was refined, only two studies remained. From these, one was rejected because it did not align with the scope of the search.

For India, 306 articles were identified in the first search, of which 18 remained following the second search. From these, four articles were excluded at the time of the search – two

Table I Number of articles found in each stage of the research

Stage of the research	*Brazil*	*Russia*	*India*	*China*
Number of articles – first search	196	32	306	263
Number of articles – second search	9	2	18	29
Number of articles – misaligned with the theme	5	1	4	9

Source: Authors (2016)

brought information about the empirical knowledge of human resource management practices (recruitment systems, job descriptions and training, while the other two dealt with the third sector {services}).

In terms of China, 263 articles appeared in the first search, an amount that was drastically reduced to 29 case studies in the second. From these, nine were excluded from the analysis because they portrayed KM in the organization's internationalization. Three of the remaining cases detailed "talent management" and "human resource management (HRM)", while one was about "public management," another focused on "management practice in China" and still another described the "marketing management in the Chinese market," all of which did not fall within the scope of this research.

In most of the cases, the articles obtained their data through surveys and questionnaires which were sent via email to organizations, although the Chinese portion was formulated through observation and case studies.

4. Results and discussion

4.1 Main KM practices adopted in Brazilian industries

Analysis of the four articles from the Scopus database uncovered that De Borba and Kliemann Neto (2008) present a theoretical review of the KM practices of hospital management and organizational learning. This research underscores the importance of the collective learning process, as well as relationships between learning and the need for adjustments in Brazilian hospitals.

Lakshman and Parente (2008) open a discussion about KM in relation to suppliers in the Brazilian automobile industry. The authors highlight the importance of managing acquired knowledge from suppliers during the development of new processes, as well as relationships involving the financial performance of the product. Their results are discussed within the context of KM and relations with suppliers, a very strong partnership in the automotive industry in Brazil and overseas.

The automotive sector is studied in detail in Brazil, not only because it has been receiving large investments by international automakers, and even by the government, but also because it promotes a lot of KM exchange. Valio and Martins (2014) identified some organizational constructs, also in the automotive sector, that are fundamental to the process of KM: human resources development, teamwork, organizational culture, organizational structure and development and knowledge absorption. These factors highly impact on the absorption of knowledge, something that is required for the automotive industry, as it is a sector of medium-high technological intensity in constant innovation and change.

Cabral and Seminotti's (2009) research was based on the case study of a large company in Rio Grande do Sul (in the south of Brazil) which was undergoing the development of collective competencies related to the role of leadership and management in the group process. Their results exposed the critical formation of collective responsibility in recognizing the role of a leader and hierarchical barriers. The article relates the practice to competence management, which aims to manage skills within organizations. Batista *et al.* (2005) note that competency management includes tasks and skills used to overcome failures.

"Chinese businesses consider it important to know and understand why people from different parts of the world act differently."

Wallace (2004) presents a 10-year study on management systems, human resources and workplace organization in automobile companies, such as Scania, Volkswagen, Iveco, Ford, Mercedes, Volvo in Sweden and Volvo in Brazil. The authors discuss KM within the context of production techniques and organizational learning through the best practices of surveyed respondents.

Table II shows the main KM practices used by Brazilian companies in articles published in the Scopus database from 2001 to 2010.

In Brazil, KM was discussed by authors such as Pereira (2002), Terra (2005), Souza and Alvarenga Neto (2003), Sicsú (2003), Stefanovitz and Nagano (2006), Tarapanoff *et al.* (2004), Batista (2006) and Silva and Rozenfeld (2002), all of whom developed their research based on processes and practices in KM. Probst *et al.* (2002) and Terra (2000) focus only on the KM practice, while Pereira (2005) applies the concept of KM to domestic companies.

Among the most cited KM practices in the Scopus database is organizational learning. According to Garvin (2000), the more deliberate and less reactive the learning, the more effective the process and solution. Organizational learning tends to increase the company's overall knowledge, enabling the creation of new knowledge and accelerating the spread of knowledge among departments. Francini (2012) says, on the other hand, that learning needs to be integrated and institutionalized to achieve value; that is, it is not just a matter of data, information or knowledge transfer but rather a matter of learning.

Best practices make similar contributions to organizational learning and, in the right climate, can produce results that can be reused or repurposed elsewhere (O'Dell and Grayson, 2000). Likewise, competency management is important because it allows the systematic management of knowledge and people skills within organizations. Initiatives in this area aim to identify core competencies, evaluate internal training and define the knowledge and skills needed to overcome problems (Lemos *et al.*, 2002). According to Torres *et al.* (2012), surveying skills foster knowledge sharing and a network of collaboration among employees.

Finally, supplier management proposes a closer relationship between parties with the goal of improving information transmission, responsibility sharing and knowledge transfer. Supporting that theory, Davenport and Prusak (1998) propose that healthy organizations generate and use knowledge when they interact with their customers and suppliers, a practice associated with research and development (R&D) teams, which are incorporated during the development of processes that include the whole supply chain.

4.2 Main KM practices adopted in Russian industries

According to Lakshman and Parente (2008), KM should be not merely a declaration, but an integral part of the business process with a focus on knowledge assets. The authors suggest that KM positively impacts innovation and emphasize upon knowledge acquisition and sharing within the organization in an effort to improve processes and products.

Business and management in Russia have changed since the 1990s, as the country has transitioned from the centrally planned Soviet system to a more capitalism economy (Puffer and McCarthy, 2011), and with this change, Russians have learned new knowledge and

Table II KM practices used in Brazilian companies identified in Scopus database

Main KM practices	*Research in Brazil*
Organizational learning and best practices	Borba and Kliemann Neto (2008) Wallace (2004)
Supplier relationship management	Lakshman and Parente (2008)
Management skills	Cabral and Seminotti (2007)

Source: Authors (2016)

skills with new technological devices and instruments that brought innovation and organized new production process.

Table III presents the main KM practices for Russia.

Björkman *et al.* (2007) studied management practices used by human resource managers to transfer knowledge between Finnish and Russian subsidiaries. Considering only Russian companies, the results indicate significant differences in human resource management practices and signal that personal attitudes are vital for international knowledge transfer. Companies observe cultural and regional aspects and facilitate skill empowerment through motivational activities and training followed by the documentation and storage of accumulated organizational knowledge. Knowledge is also pursued externally and shared between sectors in processes such as benchmarking, where new ideas and approaches are developed, commercialized and implemented to enhance innovation.

4.3 Main KM practices adopted in Indian industries

Since intensifying its globalization process in the 1990s, India and other developing countries such as Brazil, Russia, China, the Philippines and South Korea have expanded their factories, brands, financial assets and management models to become major players in the global economy (Arora and Athreye, 2002). Singh *et al.* (2006) point to the manufacturing and service industries, as well as the agriculture sector, as pillars of the Indian economy, providing opportunities for economic growth, productivity and unemployment reduction.

In terms of case selection for the purposes of the present research, a number of studies (Chawla and Joshi, 2011; Pillania, 2008) included multiple cases, and more than half of the studies involved the high-tech, pharmaceutical, information technology, automotive, biotechnology and chemistry industries. In many of these cases, knowledge transfer tended to occur organically among employees; however, in smaller and less technological sectors such as hotels and banking, knowledge sharing was found to be less proactive, as sharing behaviors were perceived by workers to be a threat to their jobs. In Singh *et al.* (2006) evaluation, technology is inherent to the processes and is essential for the support of senior management decision-making.

Khanna *et al.* (2010) found that automotive and technology industries that adopted standardized international management practices such as ISO 9000, AS 8000, Corporate Social Responsibility, TS 16949 and OHSAS 1800 enjoyed well-defined procedures and a reduction in paperwork, redundant notes and unnecessary overlap.

Economic theories propose a central role in knowledge creation and storage as the driving force behind economic growth (Silva, 2005; Lemos *et al.*, 1999). Miller *et al.* (2011) reiterated the importance of adopting standardized management practices that are crucial for market competitiveness. Dasgupta *et al.* (2009) also highlighted factors that promote KM initiatives to enhance innovation, the most cited of which were organizational culture, open communication and encouragement to leadership.

Puri (2007) stresses another important aspect in building knowledge alliances between various parties involved in the KM movement, for example community and customers. In this sense, contributors play a key role in effective coordination and the strengthening of knowledge systems.

Table III KM practices used in Russian companies identified in Scopus database

Main KM practices	*Research in Russia*
Organizational learning and best practices training outside the organization's environment	Björkman *et al.* (2007)

Source: Authors (2016)

Singh's (2008) article was the only one to focus on the cultural factors of KM-sharing countries. He noticed a significant behavior difference in people from the subcontinent, pointing out that they have a more relaxed attitude even in the face of significant changes in their work environment. Improvement, standardization and professionalism are implemented through training programs, coaching and development formulated by the human resources departments.

Table IV informs the main KM practices applied by Indian companies.

Although these were the most cited practices in the Scopus database literature, organizations seem to understand that knowledge is the result of learning processes that are promoted over time, and although knowledge is complex and difficult to imitate or acquire, it is a source of long-term competitive advantage.

4.4 Main KM practices adopted in Chinese industries

Political, economic and social reforms initiated in the late 1970s by Deng Xiaoping favored, among other benefits, the advancement of the scientific and technological sphere of the country (Dutta, 2005). In accordance with Li and Edwards (2014), the results of these reforms began to emerge in the 1990s, when China became internationally renowned for its satisfactory socioeconomic progress. Illiteracy rate reduction, gross domestic product (GDP) increase and scientific production growth are some of the indicators that grew rapidly during this time.

With favorable economic indicators and public policies contributing to education, foreign investment and domestic consumption, China has gone from an economic spectator to an active economic agent (Cheng *et al.*, 2009; Rodrik, 2004). Such initiatives have aroused the interest of many international entities, which have begun to reroute their FDI to China. According to Ye (2009), during the 1990s, an FDI diaspora of sorts took place in China. Automotive and metal mechanic industries were the two segments that began the investments (Kudina and Christos, 2014) followed by the technology and service sectors. The government itself encouraged the development of domestic manufacturing industries and commodities (Peres and Araújo, 2011; Borensztein *et al.*, 1998).

Most of the selected articles from the Scopus database examined the formal governance and "social networking" of organizations, incorporating cases of large, medium and small

Table IV KM practices used in Indian companies identified in Scopus database

Main KM practices	*Research in India*
Learning organizations programs and KM through benchmarking in similar companies in the occident	Chawla and Joshi (2011), Miller *et al.* (2011)
Hiring the scientifically trained students coming out of the best universities, bringing what is the newest in the market	
Motivation may inspire the managers to pursue international management system - isos application	Khanna *et al.* (2010)
Tacit Knowledge embedded in the firm's culture, structure and leadership as a complement to the explicit knowledge embedded in the firm's technology and documents	Dasgupta *et al.* (2009), Singh (2008)
Knowledge portal to learn about the details of problems encountered and the solutions found by other plants	
Knowledge circles wherein employees are encouraged to give presentations on their topics of interest	
Customer-focused knowledge; knowledge alliance	Pillania (2008), Puri (2007)

Source: Authors (2016)

business and both domestic and international companies. Interpersonal trust, mutual commitment and awareness of cultural knowledge-related gaps were found to contribute to social networking (Hong and Olander, 2010), while external environment, organizational environment and cultural and behavioral aspects are important KM coefficients (Wu and Boateng, 2010).

Chang *et al.* (2009), Ying and Pheng (2009) and Wong (2008) express concern regarding the challenges facing East-West dynamics, as well as those faced in the processes of internationalizing China's industries and vice versa (Choy *et al.*, 2010). Nevertheless, leadership style, combined with a shared network of knowledge and cultural intelligence, contribute to KM success (Chang *et al.*, 2009).

Chinese companies in the automotive and mechanical-metal industry adopted Toyota's production model where Chang *et al.* (2009) address the conversion of tacit knowledge into explicit knowledge using Toyota Production System tools such as Kanban or Poke Yoke, as tacit knowledge is difficult to verbalize.

Ying and Pheng (2009), Wong (2008) and Craig and Lemon (2008) identified other segments, such as technology, education and construction, that expanded their competitive advantage and operational gains by taking advantage of internal best practices. Wong (2008) emphasized creativity as a strategic tool for promoting competitiveness in organizations and a factor in KM implementation.

Perks *et al.* (2009) cite the existence of the *Guanxi* (relationship) as a key element in labor relations, or the knowledge among various parties that cooperate and support each other. Chinese manufacturing employees also tended to keep their personal knowledge implicit but were willing to share it informally amongst colleagues (Craig and Lemon, 2008; Tong and Mitra, 2009).

Table V summarizes the main KM practices in China.

Although Chinese organizations predominantly maintain tacit knowledge, with the exception of passing information to trust others, KM practices are highly influenced by Western interactions that tend to regulate labor relations in the Chinese market (Burrows *et al.*, 2005). The objective, then, is to sustain and enjoy the local culture in the midst of an evolution of knowledge by Chinese workers toward Western management practices and behaviors.

4.5 Common KM practices adopted in BRIC countries

Table VI compiles the KM practices mentioned so far by each country. The objective of it is to offer a better view of the main KM practices among BRIC industries.

Although the developing countries mentioned so far have different economic, political and cultural characteristics, BRIC industries share common KM techniques. Unfortunately, with increased layoffs in recent years, organizations are beginning to lose their tacit knowledge, and BRIC economies have become increasingly unstable (The Economist, 2016).

Table V KM practices used in Chinese companies identified in Scopus database

Main KM practices	*Research in China*
Learning organization programs and KM through benchmarking in similar companies in the occident	Chang *et al.* (2009), Ying and Pheng (2009), Wong (2008)
Manuals/record of proceedings	Perks *et al.* (2009), Tong and Mitra (2009)
Learning from reviews/internal learning	Ying and Pheng (2009), Wong (2008), Craig and Lemon (2008)

Source: Authors (2016)

5. Conclusion

Through the use of scientific literature, this study mapped the main KM practices used by BRIC industries and identified predominant common characteristics in these countries. It was also determined that these practices ensure a competitive advantage, whether in procedural knowledge or cultural production.

In Brazil, the main KM practices are closely connected to the people and intellectual capital development, in which human resource departments play a special role. Human capital management is essential in a knowledge society, where people look for recognition and continuous refinement of their abilities and skills.

KM in Russia is carried out through internal and external training of employees. The objective is to encourage competitiveness, individualism and professional qualification.

Meanwhile, Indian organizations try to involve people with the skills and competencies necessary to foster increased organizational knowledge.

Chinese businesses consider it important to know and understand why people from different parts of the world act differently. These features are reflected in the organizational management where culture impacts interpersonal relationships and shapes the tacit and

Table VI Common KM practices among the BRIC

Main KM practices mentioned in this study	*Brazil*	*Russia*	*India*	*China*
Organizational learning and best practices	☺	☺	☺	☺
Supplier relationship management	☺			
Management Skills	☺			
KM through occidental companies benchmarking or external training	☺	☺	☺	
Hiring the scientifically trained students leaving the best universities, bringing what is the newest in the market			☺	
Motivation may inspire the managers to pursue international management system – ISOs application			☺	
Tacit knowledge embedded in the company's culture, structure and leadership as a complement to the explicit knowledge embedded in the company's technology and documents	☺		☺	
Knowledge portal to learn about the details of problems encountered and the solutions found by other plants			☺	
Knowledge circles where employees are encouraged to give presentations on their topics of interest			☺	
Customer-focused knowledge; Knowledge alliance	☺		☺	
Manuals/record of proceedings				☺
Learning from reviews/internal learning	☺			☺

Source: Authors (2016)

explicit characteristics of the organization, that is, how distinct KM in China is, because it is influenced by psychological factors and not technological factors.(such as cultural values) (Burrows *et al.*, 2005).

In all of the countries, organizational knowledge enables a management model aligned with the temporal needs of each organization, and organizational learning allows companies to empower their employees to achieve satisfactory results and perpetuate knowledge.

The results have practical implication, in particular. They are expected to help managers and workers to better comprehend or even suggest new KM practices in the business.

Because this research is based exclusively on "industrial case studies" and published articles in the SCOPUS database and theoretical essays that talk about KM practices were not included, results are not exhaustive. Additionally, the BRIC economic situation has changed in the last years, becoming more unstable and increasing the number of layoffs, which directly impacts the reduction of tacit knowledge. It is suggested that future research reassess actual KM practices, applying this new information to BRIC economies or replicating the present study using a different database. Future studies should also determine which competencies a manager should possess to work in these countries.

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