ISCTE ⊗ Business School
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Matching Knowledge Management and Human Capital Management: Towards an Integrative Framework

Pedro Miguel de Magalhães Lamy

Dissertation submitted to ISCTE – Lisbon University Institute

Master Degree in Human Resource Management

Thesis Supervisor:
Maria do Rosário Cabrita, PhD – Professor at Faculdade de Ciências e Tecnologia da Universidade Nova de Lisboa

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Abstract

The rapidly increasing economic dynamics that global market poses to modern organizations combined with the emergency to attract, develop and retain the best human capital (HC) led to more effective approach to knowledge management (KM). HC becomes the center of KM while the distribution of knowledge among organization's employees is considered its main activity. Effective KM use requires the ability to choose among all skills and knowledge those which contribute to creation of organizational key processes and activities.

KM and Human Capital Management (HCM), two highly popular topics in current management discussions, are often bracketed together. An extensive literature review shows that knowledge plays a background role in HCM discussions, emphasizing the impact of KM practices on leadership, creativity, motivation, new ideas generation, recruitment, and employee competence. Some gaps are diagnosed in terms of absence of literature regarding an holistic approach to HC and KM processes, given the fragmentation on findings between the research in the two areas.

The literature review of both KM and HC provides a deeper understanding of how KM practices contribute to develop, retain and renew organization's HC, as part of a broader and more integrated effort to manage and develop human capability for business performance. Taken together, these two research domains are matched in a framework that intends to support the implementation of KM practices in order to promote HC development. A survey was administered to eight portuguese healthcare institutions to infer the most relevant KM practices to impact HC level contributing to the framework.

Key-words: Human Capital; Knowledge Management; Knowledge Management Practices; Leadership; Creativity; Motivation; Recruitment; New Ideas Generation; Employee Competence

JEL Classification J24; D83

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List of Abbreviations

AC – Absorptive Capacity

DC– Dynamic Capabilities

HC – Human Capital

IT – Information Technology

IC – Intellectual Capital

KBV– Knowledge Based View

KM – Knowledge Management

RBV – Resource-Base View

StC – Strutural Capital

SC – Social Capital

Chapter I - Introduction

1.1 - Background

The Knowledge Economy, a term attributed to Peter Drucker, owes it´s name to the recognition of knowledge and technology as the main drivers of value creation in modern economies. Therefore knowledge production, knowledge sharing and knowledge application are the goals of international entities, namely through institutions, processes and mechanisms that foster the aforementioned objectives.

The new social paradigm is based on knowledge, information and technology to achieve development. In such an economic context organizations strive to manage their internal knowledge in the most effective way in order to gain a competitive advantage regarding their market competitors. The definition of Knowledge Management (KM) according to Conrad and Newman (1999; p.1) is "a discipline that seeks to improve the performance of individuals and organizations by maintaining and leveraging the present and future value of knowledge assets."

The present economic landscape is characterized by increasingly rapid and dynamic knowledge flows that pose challenges to all organizations under the threat of transforming their "core competencies" in "core rigidities" (Leonard-Barton, 1992). As consequence, organizations must use KM activities in order to close the inevitable knowledge gaps that menace their competitiveness (Molineux 2012). The role of dynamic capabilities in building a competitive advantage is of great relevance in meeting change through "the adoption, integration and reconfiguration of endogenous and exogenous organizational skills, resources and functions" (Sher and. Lee, 2004; p.938).

The present socio-economical environment has lead knowledge to the status of economical asset, in which other intangible assets, such as interpersonal relations or creativity to mention two examples, drive value creation at a global scale. In order to remain competitive in the market not only organizations but also individuals must engage in a dynamic and continuous learning process to foster the development and enhancement of both new and present skills and competences. The set of attributes that individuals posses in the marketplace lead to the emergence of the concept of Human Capital, which can be defined according to Edvinsson and Malone (1997) as "a combination of knowledge, skills, experience and the individual capabilities of the firm's employees". Despite the composition of human capital, by itself it can´t assure the maintenance of individuals knowledge stocks, resorting to Dierickx and Cool (1989) notion, since

learning is related with knowledge flows as for instance sharing insights, knowledge and mental models (Senge 1990).

The resource-based view (RBV) is focused on the internal resources that firms posses, namely to create a sustainable competitive advantage over competitors, which is mainly based in intangible assets. This intangible condition is a barrier to imitation due to its characteristic ambiguity, specific nature, complexity and mainly tacit rooted location (Reed and DeFillippi, 1990).

In building this sustainable competitive advantage KM main activities help to manage knowledge, in doing so they help to create organizational memory on one hand and on the other hand they help to build organizational capability. The most important KM activities are 1- knowledge acquisition 2- knowledge development 3- knowledge distribution 4- knowledge utilization and 5- knowledge retention.

The most unanimous approaches to KM are the practice and the process approach. The practice approach is related to the social and cultural context due to it´s tacit view of knowledge, while the process approach emphasizes the technological and process context.

The goal reaching concept of Intellectual Capital modern companies poses" consists of human, social and organizational capital" (Hansen, Alewell; 2013, p.6). This concept it´s ment to manage the intangible interrelations between these three dimensions, being human capital, wich "embodies the knowledge, talent and experience of employees (Bontis & Fitz-enz 2002 in Suhonen and Paasivaara 2011)", a central element of "intellectual capital" (Ahonen 2000 in Suhonen and Paasivaara 2011).

This dissertation aims to provide a better understanding of Knowledge Management and Human Capital, through a comprehensive review of the literature, combining in the same purposed framework these two interrelated areas. It is therefore expected a practical use of this work by researchers and managers in order to enhance human resource management in these two areas.

1.2 - Dissertation´s Objective

The main objective of this dissertation is to analyze Knowledge Management and Human Capital Management paradigms, depicting their interrelated dynamics through the development of a framework.

This work allows a better understanding of the previously referred paradigms, clarifying erroneous or misunderstood concepts. At the same time it will aim at helping to enhance the management of Human Capital and Knowledge, their goals and their implementation in organizations.

In order to achieve these objectives, a two-fold process has to be established, specifically:

I – Identify and characterize Knowledge Management and Human Capital Management Paradigms. In doing so it´s important to highlight what are the main attributes and practices of each paradigm;

II – Examine the relationships between the paradigms to understand their role in enhancing each dimension of Human Capital in organizations. Build up a framework that encompasses the defined interactions between the identified paradigms.

Furthermore, a structured revision of published articles was performed in order to identify the most important attributes and practices in enhancing Human Capital and Knowledge Management.

1.3 - Methodology

This dissertation´s methodology encompasses 4 iterative steps, despite their sequential presentation. Due to the predominantly theoretical approach of this dissertation, it has a conceptual nature.

With the purpose of achieve the above mentioned objectives, the first step to perform is to execute a comprehensive literature review of Human Capital and Knowledge Management literature from the last decade. This revision will allow to identify the most acclaimed characteristics and definitions of Human Capital and Knowledge Management, depicting their similarities and differences to subsequently present a more broad definition.

The next step consists in gathering the most consensual attributes and management practices from the selected articles in order to characterize the paradigms. The number of attributes and practices collect are classified according to the nature of publications they

appear in – science based, practice, associations and standardization bodies – and also according to the type of approach of the publication they are presented in – prescriptive frameworks, descriptive frameworks or hybrid frameworks. The knowledge management practices are then classified according to author and according to the knowledge process they belong to. Lastly in this phase, a survey is developed and applied to allow a selection of attributes and practices that characterize each of the paradigms used in the health care industry, performed by health professionals.

The survey´s analysis will allow to identify the most relevant attributes and practices from each paradigm. The third step is composed by the proposition of a framework that simulates the existing interaction between the paradigms of human capital and knowledge management. The framework is build up according to the knowledge management practices that contribute the most to enhance each human capital dimensions, in order to facilitate their practical integration according to the necessities of organizations.

1.4 - Dissertation´s Structure

The dissertation is composed by 5 chapters. The first chapter presents an introduction to the study, with a brief background that frames the theme, the subject of the analysis, the objectives to accomplish in the dissertation and the methodology used.

The second chapter displays a literature review, starting with the themes of knowledge management and human capital management. Followed by the definition of knowledge management, it´s five processes, practices and attributes. The same procedure is performed for Human Capital six dimensions.

In the third chapter it´s presented the analysis of the paradigms of knowledge management and human capital that were presented in the second chapter. Definitions to knowledge management and Human Capital are elaborated having per base the attributes and practices of management with more relevance for each paradigm, as well as the presentation of the results of the questionnaire that was assembled to confirm in practice in the health field the relation between the literature and the practice.

The fourth chapter proposes a framework that relates the paradigms of knowledge management and human capital.

The fifth chapter is composed by a critical analysis of the developed work. There are suggestions regarding the works that could be followed to further develop this study.

Lastly there is a presentation of the bibliography used in this work, and the index of tables and of figures.

Chapter II - Literature Review

2.1 - Introduction

The present chapter deals with the literature revision on Knowledge Management and HC by a structured literature review of the paradigms of Knowledge Management and Human Capital.

2.2 - Methodology

The revision of the literature focus on the articles published in scientific journals, with a scope range that comprehends works from February 1999 to December 2013, in order to obtain an evolutionary perspective of the paradigms of both knowledge management and human capital.

The research method regarding the definition o Human Capital dimensions, Leadership, Creativity, Recruitment, Motivation, New Ideas Generation and Level of Employee´s Competence, and Knowledge Management Processes, Knowledge Acquisition, Knowledge Development, Knowledge Distribution, Knowledge Utilization and Knowledge Retention was based on Rosário Cabrita, et al. (2012).

The chapter two encompasses four steps. The first step is to classify between the relevance or irrelevance of the articles of the six human capital dimensions, in this classification several parameters were taken into account, namely the credibility of the publications according to Web of Science (WoS) classification, as well as the year of publication of the publications.

The selected articles were then classified according the method of Rubenstein-Montano et al. (2001).to the classification of KM (Knowledge Management) in prescriptive frameworks; descriptive frameworks and hybrid framework.

Thirdly, we used the classification of Heising (2009) to classify the selected KM frameworks according to their origin, region and institution.

Lastly, there is presented a classification according to journal per number of articles, as well as the number of articles per human capital (HC) dimension and year.

Human Capital Dimensions encompassed in this Dissertation
Leadership
Creativity
Recruitment
Motivation
New Ideas Generation
Level of Employees´Competence

Table 1- Source: elaborated by the author

The collection of articles was performed in the portal Biblioteca do Conhecimento (b-on; www.b-on.pt) in 9 databases, namely:

● Web of Science (WoS) (http://thomsonreuters.com/web-of-science/)

● Academic Search Complete (EBSCO) (http://web.ebscohost.com);

● ACM - Digital Library (http://dl.acm.org);

● Elsevier - Science Direct (Freedom collection) (http://www.sciencedirect.com);

● SpringerLink (Springer/Kluwer) (http://www.springerlink.com);

● Taylor & Francis (http://www.tandfonline.com);

● Wiley Online Library (Wiley) (http://onlinelibrary.wiley.com);

● Sage (Political e Sociology) (http://online.sagepub.com);

● IEEE (IEEEXplore Digital Library) (http://www.ieee.org);

● Business and Management Review (EBSCO) (http://www.bmr.businessjournalz.org/)

● Emerald Group Publishing Limited (Emerald) (http://www.emeraldinsight.com/)

The research fields that we considered in our study are: I) title; II) subject; III) title and subject. The key-words used in the bibliographic research, selected according with the purpose of the dissertation were: I) "Knowledge Management" II) "Human Capital"; III) "Knowledge Management" and "Leadership"; IV)"Knowledge Management and Creativity"; V) "Knowledge Management" and "Recruitment Program Comprehensive"; VI) "Knowledge Management and Motivation Index"; VII) "Knowledge Management" and "New Ideas Generation"; VIII) "Knowledge Management" and "Level of Employee Competence", resulting in 417 articles.

2.3 - Article Classification

The articles in this dissertation were classified according to their relevance, category, year and publication. For the relevance criteria we used the Web of Science (WoS) classification.

Regarding their relevance a total of 761 articles were classified according to the categories Relevant or Irrelevant. Their relevance is defined by their contribution in terms of paradigms, definitions, practices, attributes, practices in HC and (or) KM. It´s important to mention that the articles considered irrelevant were not further considered in the category, year and publication classification. There were a total of 417 articles considered relevant that were further on classified according to category, year and publication.

From the 177 articles obtained for the first dimension of HC and KM paradigms, Leadership, 82 were considered relevant. From the 145 articles selected for Creativity, 69 were considered relevant. Regarding the selection of article relevance for the Recruitment, from a total of 218, there were 88 relevant articles. For the 119 articles encompassed in Motivation, 54 were considered relevant. In New Ideas Generation from a total of 152 articles, there were 69 relevant articles. Finally, from 127 articles selected for the category Level of Employee Competence, there were 55 articles considered relevant. The six figures below display the assignment of articles between the two categories as well as their correspondent percentage.

Table 2- Source: elaborated by the author

Article Classification per HC Dimension

HC Dimension	Number of Articles	Number of Relevant Articles
Leadership	178	82
Creativity	147	69
Recruitment	224	88
Motivation	124	54
New Ideas Generation	158	69
Level of Employee Competence	138	55

Leadership

Fig.1

- Relevant Articles: 82; 47%
- Irrelevant Articles: 95; 53%

Creativity

Fig.2

- Relevant Articles: 69; 48%
- Irrelevant Articles: 76; 52%

Recruitment

Fig.3

- Relevant Articles: 88; 42%
- Irrelevant Articles: 130; 58%

Motivation

Fig.4

- Relevant Articles: 54; 48%
- Irrelevant Articles: 65; 52%

New Ideas Generation

Fig.5

- Relevant Articles: 69; 47%
- Irrelevant Articles: 83; 53%

Level of Employees Competence

Fig.6

- Relevant Articles: 55; 48%
- Irrelevant Articles: 72; 52%

The 417 selected articles were then classified according to type. For this purpose, we use the Rubenstein-Montano *et al*. (2001) Classification: I) "Prescriptive Frameworks"; II) "Descriptive Frameworks"; III) "Hybrid Frameworks". The "Prescriptive Frameworks" point alternatives and directions to KM procedures without specifying implementation insights; the ''Descriptive Frameworks'' describe success and failure aspects of KM initiatives as well as identify important attributes; the "'Hybrid Frameworks" explain how to implement KM in practice. The classification results are depicted in Figure 7, with

relevance to the number of Hybrid Frameworks (56) from 2011, Prescriptive Frameworks (34) and Descriptive Frameworks (25) from the same year.

Figure 7 –Article Classification according to year and nature of KM Framework; Source: elaborated by the author
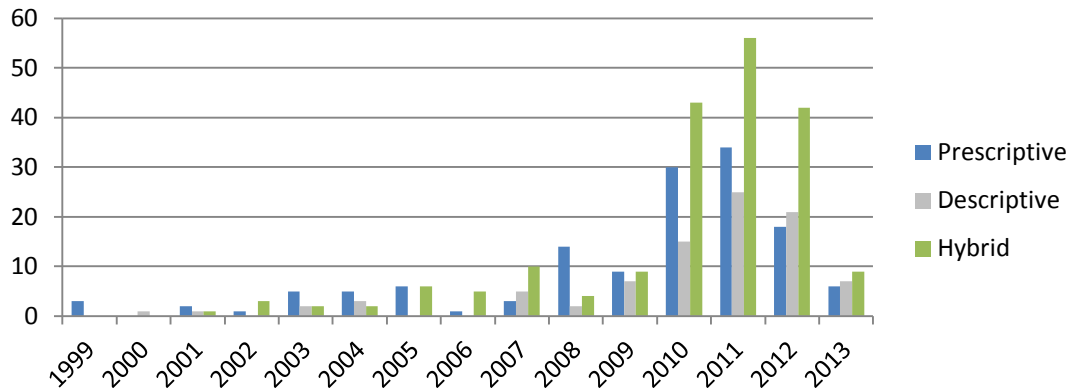
As the figures 7 and 8 demonstrate, in recent times (years of 2010 to 2012) there has been an effort by the academia and the corporate world to answer – through frameworks and success cases – to the crisis in the knowledge economy by incrementing the understanding and utilization of the KM discipline. The presented results are in conformity with the main recommendation from OECD Development Assistance Committee report (2012) for the institutions of the European Commission regarding "strengthen knowledge management, making more use of internal and external capacity". This recommendation is made in order to increase their efficiency as coordinators of the European activity, contributing to member countries in their decision-making process.

Figure 8 – Classification of articles according to geographical origin and sector; Source: elaborated by the author
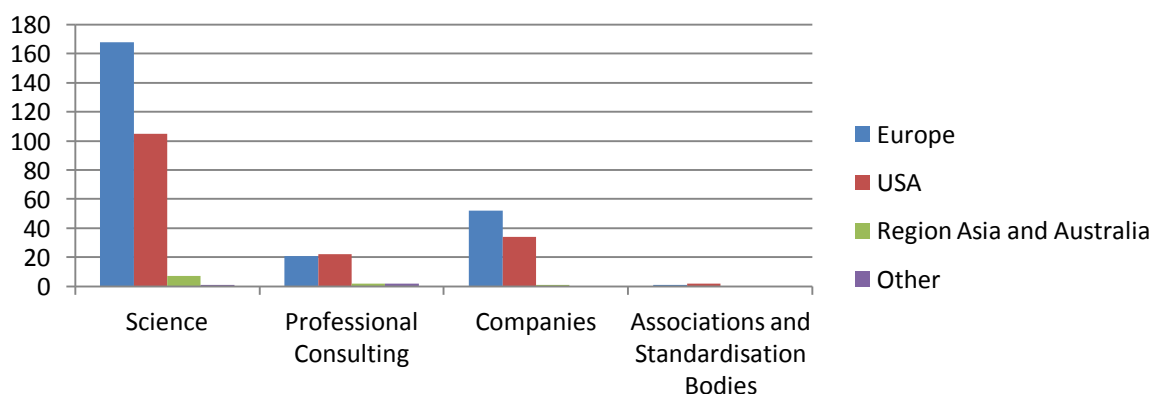
As mentioned in Figure 9, creativity is represented in 45 hybrid frameworks, whilst recruitment is the most representative HC dimension in prescriptive frameworks (42) and descriptive frameworks (19). The greater number of prescriptive and descriptive frameworks regarding recruitment is probably related to the fact that this subject is the oldest and most approached theme comparing with all the others in the human resource management area in general and in the human capital area in particular.

Figure 9 –Article Classification according to HC dimension and nature of KM Framework; Source: elaborated by the author
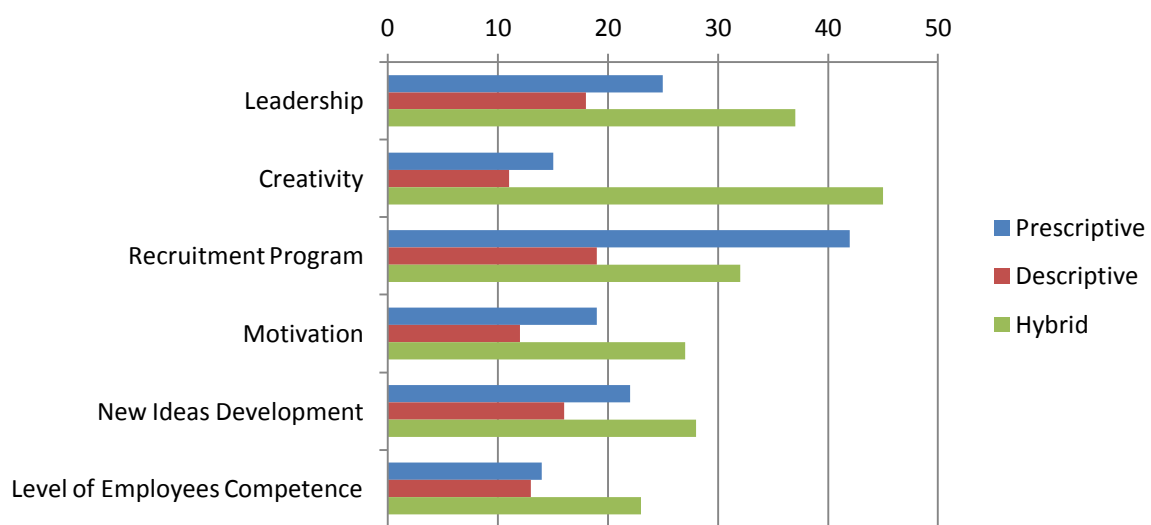
From the group of selected articles of Leadership (24), Creativity (16) and Motivation (18) the year of 2011 was the most representative. Respectively the journals with more publications to those groups were "The Leadership Journal" with 17 published articles and "The International Journal of Human Resource Management" with 6 articles (Creativity) and 10 articles (Motivation) respectively. Regarding the group of articles of Recruitment Program Comprehensive (21) and Employee Competence (18) the most representative year of published articles was 2010. Accounting the greatest sum of published articles both for recruitment and employee competence the most representative journal was "The International Journal of Human Resource Management" respectively with 44 and 11 articles. The year of 2012 was the most representative in terms of publications for the group of articles of New Ideas Generation (19), being "Industrial Marketing Management" and "International Journal of Human Resource Management" the journals with more published articles (9). The greatest concentration of published articles occurred between the years of 2010 and 2012, respectively 93 (in 2010), 97 (in

2011) and 96 (2012), however 2013 is the next year more representative (35), attesting the contemporaneity of the crossing topic approaching KM and HC.

Figure – 10: Distribution of articles according to journal; Source: Elaborated by the author

Legend:
- Human Resource Management
- Journal of Business Ethics
- Journal of Environmental Management
- Research Policy
- European Management Journal
- Computers in Human Behavior
- Management Science
- Journal of Management
- Information & Management
- Journal of Business Research
- Social Behavior and Personality
- Social Science & Medicine
- Industrial Marketing Management
- The Leadership Journal
- International Journal of Project Management
- International Journal of Human Resource Management
- Other

<table>

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total
Table 3 - Source: elaborated by the author																
Article Classification per HC Dimension and per Year																
Leadership		1		1		4	5	1	1	3	5	12	23	23	3	82
Creativity			1	1	4	1	4	1	7	2	5	14	17	10	2	69
Recruitment	2		2	2	1		5	2	5	8	3	18	18	18	4	88
Motivation					2	2				3	2	10	17	16	3	54
New Ideas Generation	1					3	2	1			1	18	13	21	9	69
Level of Employee Competence			2		1		3		2	1	2	19	11	8	6	55
Total	3	1	5	4	8	10	19	5	15	17	18	91	98	96	27	417

</table>

Lastly, it´s worth mentioning that in all the six categories the most representative years in terms of published articles are 2010, 2011 and 2012, except for Employee Competence in which 2010 and 2011 were the most representative years. Regarding the years of higher number of published articles according to categories, the highest frequency of published articles in Leadership occurred in 2012 (23), in Creativity 2011 (17), in Recruitment 2011 (18), in Motivation 2011 (17), in New Ideas Generation 2012 (21) and in Employee Competence 2010 (19).

3 - Knowledge Management

The problematic of knowledge for the humankind has been approached since ancient times, firstly related to the notion of individual and only much later as a common matter, after the Second World War, in a period that Drucker coined as "Management Revolution". Knowledge started to be the motor of change of societies, economy, behavior and culture. The shift from the Industrial Era to the Era was performed due to the substitution of knowledge as the main, factor of production. The knowledge based economy, a phenomena acknowledged by the OECD in 1996 as an "economy based on the production and distribution and application of knowledge and information". According to Alavi and Leidner (2001) quoted in Kang *et al*. (2004) there are several perspectives of knowledge wich have different implications for KM.

Table – 4: Diverse perspectives of knowledge and their and their implication for KM; Source: Source: M. Alavi and Leidner (2001) in Kang et al.(2005); p.470		
	Perspectives	**Implications for KM**
State of mind	Knowledge is the state of knowing and understanding	KM involves enhancing individual's learning and understanding through provision of information
Object	Knowledge is an object to be stored and manipulated	Key KM issue is building and managing knowledge stocks
Process	Knowledge is a process of applying expertise	KM focus is on knowledge flows and the process of creation, sharing, and distributing knowledge
Access to information	Knowledge is a condition of access to information	KM focus is organized access to and retrieval of content
Capability	Knowledge is the potential to influence action	KM is about building core competencies and understanding strategic know-how

With the ever increasing volume and complexity of knowledge, organizations started to have the necessity of managing it in order to extract its full potential value. This economic necessity, alongside with globalization and the development of new technologies gave rise to an increasing and transversal discipline, a bulk of knowledge about managing organizational knowledge, that is KM (Lee, Tsai and Amjadi, 2011). The term knowledge management has a very broad scope of definitions, regardless of the authors' definition all stress as more important aspect the means by which an organization generates economic value from its knowledge that resides in its intellectual capital. The origin of knowledge management can be attributed to Peter Druker through the definition of the "knowledge worker"(Lamb and Sutherland, 2010), while the first systematic practical approach can be attributed to Peter Senge´s "Fifth Discipline" (Littleton 2009) and to Nonaka and Takeuchi´s "The knowledge Creating Company".

As a multidisciplinary area, KM studies in the literature "have focused managerial and social issues (…) specific processes and activities within KM (…) the research agenda and general perspective of KM" and "how learning organization could obtain sustainable competitive advantage"(K. Chang Lee et al. (2005). The table 5 below displays these efforts and the corresponding authors:

Table – 5: Different KM Studies according to Specificity; Source: KM Studies - K. Chang Lee et al. (2005); p.471			
Category	**Implications**	**Sub-categories**	**Researchers**
General	Several managerial and social issues pertaining to KM are dealt with	KM strategy and organizational culture	K. C. Desouza (2003) M.H Zack (1999)
		Specific processes and activities within KM	M. Alavi (1997) C.W. Choo (1998) C.W. Holsapple and K.D. Joshi (2002). D. Mirchandani and R. Pakath (1999) G. Petrash (1996) G. Szulanski (1996) R. Van der Spek and A. Spijkervet (1997)
		Review and research agenda	M. Alavi and D.E. Leidner (2001) T.H. Davenport and V. (2001) A.H. Gold, A. Malhotra and A.H. Segars (2001)
Learning organization	Firms maintain organizational knowledge to obtain a sustainable competitive advantage	Organizational knowledge	L.M. Markus (1991–1992) P.M. Senge (1990) R. Stata (1989) E.W. Stein and V. Zwass (1995) I. Tuomi (2000) J.P. Walsh and G.R. Ungson(1991) D. Leonard-Barton (1995)
		Learning capability and design of leaning organization	R.B. Shaw and D.N.T. Perkins (1992) R. Purser, W. Pasmore and R. Tenkasi (1992) A. Van de Ven and D. Pooley (1992)
Role of IT	KM should be	Knowledge	C. Bartlett and McKinsey

	supported by IT and/or KMS so that KM can contribute to increasing management performance	management system (KMS)	& Company (1996) T.H. Davenport, S.L. Jarvenpaa and M.C. Beers (1996) P.H. Gray (2000) W.B. Rouse, B.S. Thomas and K.R. Boff (1998) S. Sensiper (1997) S.A. Watts, J.B. Thomas and J.C. Henderson (1997)
		Role of IT in KM in general	G. Fritz-Bustamante (1999)
		Role of IT for specific KM activities	D. Squires (1999) D. Suthers(1999)
		Knowledge Mining and DSS for KM	C.W. Holsapple and K.D. Joshi (2001) W.B. Rouse, B.S. Thomas and K.R. Boff (1998) I. Spiegler (2003)
		Strategic Use of the Internet	N.H.M. Caldwell, P.A. Rodgers, A.P. Huxor and P.J. Clarkson (2000) R. Dieng (2000) J. Domingue and E. Motta (2000) P. Martin and P.W. Eklund (2000) A. Rabarijaona, R. Dieng, O. Corby and R. Ouaddari (2000) D.G. Schwartz and D. Te'eni (2000) S. Szykman, R.D. Sriram, C. Bochenek, J.W. Racz and J. Senfaute (2000)

Success and failure factors	Success factors for KM should be given sufficient consideration before launching KM strategy		T.H. Davenport, S.L. Jarvenpaa and M.C. Beers (1996) G.V. Krogh (1998) R. Ruggles (1998)
Evaluation of KM performance	Valuing and measuring intangible assets promotes organizational. learning and generates organizational capabilities	Intellectual capital	A. Brooking (1996) L. Edvinsson (1997) K.E. Sveiby (1998)
		Balanced Score Card	R.S. Kaplan and D.P. Norton (1992)
		Strategic organizational learning and organizational capabilities	D. Leonard and S. Sensiper (1998) A.P. Massey, M.M. Montoya-Weiss and K. Holcom(2001) J. Roos and G. Roos (1998) T. Sakaiya (1991) T.A. Stewart (1997) D.J. Teece (1998)

The most acclaimed approaches to KM on the scientific literature are the process approach and the practice approach. According to Cabrita et al. (2012) the "process approach attempts to codify organizational knowledge through formalized controls, processes, and technologies" while opposingly the "practice approach to KM assumes that a great deal of organizational knowledge is tacit in nature, and that formal controls, processes, and technologies are not suitable for transmitting this type of understanding." The figure 3 provides an holistic view of knowledge flows in organizations through the lens of both approaches, illustrating as well the main activities of knowledge management.

Figure – 11: The Two KM Approaches

Acquisition
(from customer, supplier, competitor and partner relations)

Social/Cultural Context
(Practical Approach)

Development
(directed toward creation of new skills and products, better ideas and improved processes)

Distribution
(exchange and dissemination of knowledge from an individual to a group or the organization)

Utilization
(productive use for the benefit of the organization)

Retention
(selection, storage and updating of information, documents and experience)

Technological Context
(Process Approach)

Measurement and Assessment

**Adaptation from the author of:" Knowledge management key activities";
Cabrita et al. (2012) Figure 1 ; p.2**

According to Pentland (1995) in Sedera *et al.* (2010) KM is a systematic "ongoing set of activities embedded in the social and physical structure of the organization with knowledge as their final product." This set of activities or phases is more or less extense according to authors, ranging in the literature from three to eight, according to Goel, Sharma and Rastogi (2010) these phases encompass identifying, acquiring, transforming, developing, disseminating, using, sharing and preserving knowledge systematically.

The table below presents the considered KM phases according to author:

Table – 6: Major Steps of KM Cycle

Reference	Phases of Knowledge Management						
Alavi and Leidner (2001)	Creation	Storage	Transfer	Application			
Allee (1997)	Collect	Identify	Create	Share	Apply	Organize	Adapt
Argote (1999)	Share	Generate	Evaluate	Combine			
Bartezzaghi et al. (1997)	Abstration and Generalization	Embodiment	Dissemination	Application			
Davenport and Prusak (1998)	Determine Requirements	Capture	Distribute	Use			
Despres and Chauvel (1999)	Mapping	Acquire	Package	Store	Share	Reuse	
		Capture			Transfer	Innovate	
Dixon (1992)	Acquire	Distribute	Interpret	Making Meaning	Org.Memory	Retrieve	
Horwitch and Armacost (2002)	Create	Capture	Transfer	Access			
Huber (1991)	Acquisition	Distribution	Interpretation	Org.Memory			
Nevis et al. (1995)	Acquisition	Sharing	Utilization				
Stein and Zwass (1995)	Acquisition	Retention	Maintenance	Retrieval			
Szulanski (1996)	Initiation	Implementation	Ramp-up	Integration			
Walsh and Ungson (1991)	Acquisition	Storage	Retrieval				
Wiig (1997)	Creation	Capture	Transfer	Use			

Phases of Knowledge Management (based on Sverlinger, 2000) in Sedera *et al.* (2010); p.298

The resource-based view (RBV) advocates that the resources available to the company are the source of its sustainable competitive advantage (Ferlie *et al*., 2012; Killen *et al.* 2012; Amjadi *et al.* 2012; Thomson and Heron, 2005; Phipps and Prieto, 2012; Hsu *et al*.,2011; Haesli and Boxall, 2007; Luuka *et al*., 2011; Durmuşoğlu and Barczak, 2011; Bhamra *et al*., 2010; Camisón and Forés, 2010; Zhang *et al.,* 2012; Khoja, 2004; Currie, 2003 resource view of knowledge where its management is a matter of capture, storage,

transfer and use. The table 7 presents several definitions of this relation across several studies in different areas:

Table – 7: Perspectives on the Resource-Based View (RBV) across business areas; Source: Elaborated by the Author		
Author	**Area**	**Definition**
Lee1, Tsai, and Amjadi (2011); p.30	Engeneering Firms	"The RBV perspective argues that knowledge is a competence, which can be accumulated by information systems and can become a significant organizational capability."
Martens, Streukens, Matthyssens and Sluyts (2011); p.877	Non-Specified Belgian Firms	"The resource-based view of the firm (RBV) has emphasized the notion that resources owned or controlled by the firm have the potential to provide enduring competitive advantage when they are inimitable and not readily substitutable"
Vidal-Salazar, Hurtado-Torres and Matías-Reche (2013); p.2683	Non-Specified Firms (Training Industry)	"Companies aiming to obtain lasting competitive advantages must be aware of those abilities that differentiate the company from its competitors. In this sense, personnel training may stimulate the development of certain capabilities related to the company's human resources, which could support this differentiation and hence the desired competitive advantage."
Killen, Jugdev, Drouin and Petit (2012); p.526	Non-Specified Project Management Firms	"The RBV examines how an organization's resources drive competitive advantage. The RBV assumes that resources and capabilities are not uniform across competing organizations, and uses this heterogeneity to explain differences in organizational success rates. According to the RBV, resources that are valuable, rare, inimitable, and non-substitutable (VRIN) or valuable, rare, inimitable, and involve organizational focus and support (VRIO), form the best basis for sustainable competitive advantage".
Thompson and Heron (2005); p.1032	UK Aerospace Industry	"The RBV perspective suggests that human resource advantage or the superiority of one firm's HRM system over another is rooted in causally ambiguous, socially complex and historically evolved processes. Managers are central to the design of these processes, which in turn

		lead to the creation of unique, rare and non-imitable resources."
Phipps, Prieto (2012); p.48	Automotive Industry	"Knowledge is a major organizational resource. This perspective is maintained by the knowledge-based view of the firm (KBV), and builds upon and extends the resource-based view (RBV)".
Hsu, Choon Tan, Laosirihongthong and Keong Leong (2011);p. 6632	Non-Specified Automotive ASEAN Firms	"The RBV assumes that gaining and preserving a sustainable competitive edge is a function of the firm's core resources and capabilities. These resources and capabilities are the key source of a firm's success, and heterogeneity in organizational resources leads to varied competitive advantages and performance".
Haesli and Boxall (2007); p.1956	Engineering Firms	"The basic idea behind the RBV is that firms can be conceptualized as bundles of resources, some aspects of which can only be developed internally and which have the potential to positively differentiate the firm."
Kylaheiko, Jantunen, Puumalainena, and Luukka (2011);p.275	IT Firms	"Now the concept of knowledge as a public good was challenged and firm specific heterogeneous resources were treated as the main sources of competitive advantage. This tradition that rapidly became the leading one in the field of strategic management was called the resource-based view of the firm (RBV)."
Durmuşoğlu, Barczak (2011); p.322	IT Firms	"The resource-based view (RBV) suggests that firms have different resources and capabilities and that performance depends on how those particular resources and capabilities are deployed."
Bhamra, Dani and Bhamra (2010); p.4	Non-Specified UK SME Firms	"Within the emerging resource-based view of the firm, the belief is that a competitive advantage arises from strategy based upon the usage of special, rare and tacit bundles of resources held within the boundary of an organization."
Camisón, Forés (2010); p.707	Non-Specified Spanish Firms	"Knowledge represents a critical resource to create value and to develop and sustain competitive advantages. "

According to the knowledge-based view (KBV) knowledge is the most important resource that drives an organization to attain a sustainable competitive advantage (Gray and Meister; 2004), due to its specific properties such as scarcity, transfer and replication difficulty (Haesli and Boxall, 2007; Johnston and Paladino, 2007; Linderman et al., 2004; Durmuşoğlu and Barczak, 2011; Sekiguchi, Bebenroth and Li; 2011; Phelps, Heidl and Wadhwa, 2012). The table (8) illustrates this concept. However the intangible nature of knowledge, which per si may create "barriers to imitation through the causal ambiguity induced by their tacit, complex and specific nature",(Reed and DeFillipini (1990) in Rosário Cabrita et al. (2012) jointly with technological and socio-economic factors (e.g. market liberalizations and limitations to entry barriers) brought more importance to knowledge assets in their role in the value creation process. At the same time great challenges are posed to organizations, since not all knowledge, products and services are of difficult imitation or replicability, consequently generating less economic value. Therefore the base of the sustainable competitive advantage of many organizations can no longer rely solely on entry barriers (Luukka *et al.* 2011) but has to rely on its dynamic capability and absorptive capacity (Killen *et al*. 2012).

Table – 8: Perspectives on the Knowledge-Based View (KBV) across business areas; Source Elaborated by the Author		
Author	**Area**	**Definition**
Haesli and Boxall (2007); p.1957	Engineering Firms	"KBV proceeds from a self-evident assertion: firms are dependent to some extent on an ability to internally create the knowledge required to adapt to their environments. The argument generally runs as follows: formal repositories and documentation are effective for capturing knowledge that can be easily communicated, but are unable to capture critical 'tacit' knowledge."
Johnston and Paladino (2007); p.282	Multinational Corporations and Australian Subsidiaries	"An accumulation of such resources impedes current and potential competitors from quickly replicating the firm's 'relatively impregnable bases'."
Linderman, Schroeder, Zaheer, Liedtke and Choo (2004); p.593	Non-Specified Management Firms	"The knowledge-based view (KBV) of the firm provides one theoretical perspective in understanding how quality management leads to performance. According to this view, knowledge is a crucial resource for a firm and a source

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		of competitive advantage that improves firm performance".
Sekiguchi, Bebenroth,Li, (2011);p.100	Multinational Corporations and Afilliates in Japan	"The knowledge-based view (…) proposes that firm performance is largely determined by the firm's resources that are valuable, rare, inimitable, and non-substitutable. Thus, knowledge that is created (…) is considered to be a critical part of the firm's resources that are the source of sustainable competitive advantage."
Phelps, Heidl and Wadhwa (2012); p.2	Non-Specified Management Firms	"Knowledge-based view of the firm, theorizing firms exist because they provide efficiency advantages in the use, creation and commercialization of knowledge relative to markets".

The organizations´s Dynamic Capability (DC) is the capacity of a firm to manage internal and external knowledge in such a way that allows its optimal response to quick changes of market demands. In order to be able to respond accordingly to market changing conditions and demands organizations must improve its learning ability, the effectiveness of it´s processes and to reconfigure it´s competencies faster than its competitors, as seen in table 9. According to Sher and Lee (2004) the "management of both endogenous and exogenous knowledge through IT applications significantly enhances dynamic capabilities."

Table – 9: Perspectives on the Dynamic Capabilities (DC) across business areas; Source: Elaborated by the Author		
Author	**Area**	**Definition**
Cepeda, Vera (2007); p.427	Information technology and communication industry in Spain	"Despite a lack of agreement about the nature of dynamic capabilities, consensus is emerging about the need for a hierarchy of capabilities, taking into consideration four critical aspects: (1) Capabilities are organizational processes and routines rooted in knowledge, (2) The input of dynamic capabilities is an initial configuration of resources and operational routines, (3) Dynamic capabilities involve a transformation process of the firm's knowledge resources and routines, and (4) The output of dynamic capabilities is a new configuration of resources and operational routines".
Sher, Lee (2004);p.933	Non-Specified Firms (IT Sector)	"Dynamic capabilities refer to an organization's ways of responding in a rapidly changing environment. When the knowledge assets of a firm are exploited, the firm sees enhanced dynamic

		capabilities and increased business value. Like-wise, good management of the integrative learning mechanisms of endogenous knowledge promotes dynamic capabilities and thus builds competitive advantage. Recent studies in strategic management have increased attention to both theoretical and empirical convergences of KM with dynamic capabilities perspective. IT is a fundamental dimension of this."
Ferlie,Crilly, Jashapara, Peckham (2012); p.1300	Non-Specified Firms (Health Sector)	"Dynamic capabilities are "the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments".
Morales, Barrionuevo, Gutiérrez (2012); p.1043	Non-Specified Spanish Firms	"Strategic theories stress that organizations that adopt an innovation first are able to create isolation mechanisms. Because knowledge of the innovation is not available to competitors, these mechanisms protect profit margins, enabling the organization to gain important benefits. Likewise, the theory of resources and capabilities maintains that the capabilities, resources and technologies needed to adopt the innovation make external imitation more difficult and allow firms to sustain their competitive advantages and obtain greater organizational performance".

As previously mentioned an organization needs to deal with internal and external knowledge, namely the organization needs to acquire knowledge, to create it and to transfer it (Kamoche and Kahindi, 2013) within its structure using various means such as policies and routines. In order to acquire knowledge the organization needs to develop procedures, which involves managing knowledge according to the strategic objectives of the organization. However it´s impossible to directly manage knowledge because some knowledge is tacit which means it´s exclusively held internally by individuals. Also due to knowledge´s nature there are limitations regarding its´codification, rendering it impossible or difficult to transfer, which means organizations can only manage the encompassing context were knowledge resides. According to many theorists (Johannessen, et al., 1999; Dyck et al., 2005; DeTienne et al., 2005; Anand et al., 2010; Pan and Wang, 2010) after Nonaka´s pioneering work, "A Dynamic Theory of Organizational Knowledge Creation", the more an individual that holds valuable tacit knowledge is identified with the organization the more he will be willing to cooperate with the efforts of the organization in amplifying their knowledge and to crystallize it, making it more accesscible to other individuals in the organization. The definitions of this concept found in the selected articles are presented in Table 10.

Table – 10: Perspectives on the Absorptive Capacity (AC) across business areas; Source: Elaborated by the Author

Author	Area	Definition
Camisón, Forés (2010); p.708	Non-Specified Spanish Firms	"Absorptive capacity is the capacity of a firm to value, assimilate and apply, for commercial ends, knowledge from external sources. This new approach considers absorptive capacity as a by-product not only of R&D activities, but also of the diversity or breadth of the organization's knowledge base, its prior learning experience, a shared language, the existence of cross- functional interfaces, and the mental models and problem solving capacity of the organization's members."
Kyläheiko, Jantunen, Puumalainen, Luukka, (2011); p.274	Non-Specified Firms (Mangement Sector)	"Between the two extreme poles is the partly tacit and partly codified knowledge type called generic knowledge, which is often based on science. The ability to exploit these bits of knowledge crucially depends on the ability to decode. This capability has been called (…) absorptive capacity."
Killen, Jugdev, Drouin, Petit (2012); 528	Non-Specified Project Management Firms	"The need to appreciate and acquire knowledge from the external environment is central to the AC concept, often enhanced by internal processes of learning from past experience and current actions".
Chang and Tzeng (2010); p.139	Taiwanese High-Tech Industry	"The absorptive capabilities is a set of procedures of analyzing knowledge accumulation and knowledge transformation, a competitive advantage is sustained and created through the development of dynamic capabilities. Thus the absorptive capabilities enhance the organizational innovation performance. There are relations within the three."
Shu and Chuang (2011); p.674	Non-specified firms (IT Sector)	"Absorption capacity is not only the ability to understand, but also the ability to apply the knowledge."
Loke, Downe, Sambasivan, Khalid, (2012); p.778	Non-Specified Firms (Retail Sector)	"The level of knowledge overlap between partners, including the ability of a firm to value, assimilate and commercially utilize new, external knowledge."
Balogun and Jenkins (2003); p.249	Non-Specified Firms (Architecture Sector)	"Absorptive capacity is to do with the ability to absorb new knowledge. Absorptive capacity will be higher when there is already prior knowledge of a particular specialist area, making it easier to absorb new knowledge about this specialism. Absorptive capacity suggests that the ability to absorb new knowledge is enhanced by prior knowledge in a particular special- ist area. It enables organizations to identify the value of new knowledge more effectively than organizations with little prior knowledge."
Wittmann, C. Michael (2009); p.176	Non-Specified Firms (Franchise Sector)	"The notion of absorptive capacity (…) has also been suggested as a as a critical requirement for how well a firm exploits its knowledge resources."
Berta, Teare, Gilbart, Ginsburg,	Canadian Healthcare Firms	"The theory is ''absorptive'' or

Reference	Context	Definition
Lemieux-Charles, Davis, Rappolt (2010); p.1327		''learning capacity,'' a concept that specifies an organization's ability to recognize the value of new knowledge and information, assimilate it, and then apply it to make high-quality decisions (…); this concept has been referenced more recently in the health services literature as relevant to an organization's ability to assimilate innovations."
Chen, Chen (2010); p.3193	Non-Specified Firms (IT Industry)	"The acquisition of knowledge aims to extend organizational knowledge, so absorptive capability of organization is vital for creation, diffusion and accumulation of knowledge."
Marsh, Stock (2006); p.425	Non-Specified Firms (IT and Telecomunications Provider Sector)	"The organization´s absorptive capacity is greater in areas of past learning and it is therefore more successful at perceiving, assimilating and applying new knowledge in these areas."
Huber and Franz (2013); p.167	IT firms in the United Kingdom	"Absorptive capacity, the ability to recognise, absorb and utilize outside sources of knowledge, has been identi-fied as critical for organizations."
Reich, Gemino and Sauer (2012); p.665	Non-Specified Firms	"The ability to absorb a diverse range of knowledges and make use of them".
Haugland, Ness, Grønseth and Aarstad, (2011); p.279	Tourism Firms	"The actor's ability to use the new information to commercial ends. Actors at destination B need to relate the information acquired from destination A to a different context involving different resources than those possessed by A. In this process, interpretations need to be shared and related to the local context in order to be exploited innovatively."
Cepeda and Vera (2007); p.429	Non-Specified Firms	"Access to knowledge depends on factors such as awareness of its existence and potential, the presence of channels for communicating knowledge, and the absorptive capacity of the possible users. A critical element in the systematic integration of new knowledge is the existence of a KM infrastructure, which encompasses the people, technology, and procedures the company dedicates to the management of knowledge."
DiLiello, Houghton, Dawley (2011); p.157	American Government and IT Sectors	"Absorptive capacity is the ability to identify useful information that can be used constructively. Information, in the form of relevant knowledge, must be able to flow freely across organizational units to various organizational actors."
Formentini and Romano (2011); p.546	Multi-Project-Based Firms	"Recipient's lack of absorptive capacity (in other words recipients might be unable to exploit external sources of knowledge), causal ambiguity (the difficulty in the replication of a routinized use of knowledge is most likely to arise from ambiguity about what the factors of knowledge creation are and how they interact during this process) and the arduousness of the relationship between source and recipient (laborious and distant relationships might create additional hurdles in the transfer) are the most important barriers to knowledge transfer within the firm."
Lee and Steen (2007); p.3	American Automotive and IT Sectors	"An organization's ability to leverage new information depends on its "absorptive capacity," which is a function of its prior knowledge in a related area."
Asoh, Belardo and Neilson (2002); p.4	Non-Specified (Government Sector)	"External boundary spanning that has been shown to dramatically improve an organization's absorptive capacity and its

		ability to learn, innovate and compete is dependent upon which knowledge sources are available. Its culture determines the success of its degree to internal boundary spanning capability and the which individuals are capable of communicating with one another and their willingness to share what they know."
Ferlie, Crilly, Jashapara and Peckham (2012); p.1300	Non-Specified Firms (Health Sector)	The concept of 'absorptive capacity' refers to an organization's effectiveness in sensing, acquiring and using new knowledge".

The concept of absorptive capacity states that the capacity of individuals in organizations to learn and acquire new knowledge is as higher as the relation that those individuals are able to establish through the contact they maintained previously with similar knowledge, which constitutes the knowledge-base of the organization. This repository of knowledge or the sum of all collective knowledge is called core competence. In fact tese clusters of distinct technical systems, skills and managerial systems must be constantly renewed and re-used under the menace that the competences and skills of individuals become "core regidities". This term was coined by Leonard-Barton to describe how organizations can lose their ability to concur and to be competitive due to the lack of applicability between individuals´competencies and skills and market demands. The core capabilities of a firm are specially related to the development of new processes and products in an organization therefore they are of extreme importance to enhance the innovation capacity of a firm. The concept of core capabilities is related to the human capital helded by an organization, namely by the competences that employees posses and how they use knowledge. Some authors (Prahalad and Hamel 1990 in Haesli and Boxall, 2007) stress that "the competitive advantages of firms stem from core competencies, which are based on the distinctive knowledge created within them over time" claiming that much knowledge is embodied in the organizations human resources.

As Choudhary *et al*. (2010) state that the increasingly competitive global market demands for specific solutions to its problems – highlighting IT´s crucial role as a KM enabler – which challenges modern organizations "to identify effective means of reducing production cost, improving product and service quality, reducing time to market delivery, accelerating responses to customer requirement and bettering flexibility and system's reusability." This quick changing environment "forces enterprises to continuously improve, protect and create their own core competencies in order to continuously survive" (Jia, 2010), through knowledge acquisition, storing and innovation, which

reinforces the strick relation with KM (Alavi & Leidner, 2001 in Yeh *et al*. 2012). Some authors focus the more specific nature of core competencies in organizations, namely in assignements according to the core competencies of employees (Jones, 2005) or managing knowledge at a team level (Eppler and Gallen 2000).

These core compretences are intangibles that contribute extensively to the companies´ value creation process; they are part of the intellectual capital of organizations, more specificly of the human capital dimension wich "embodies the knowledge, talent and experience of employees" (Suhonen and Paasivaara, 2011).

The purpose of intellectual capital is to manage and enhance intangibles that are of strategic importance to the market and to organizations. Due to the intangible and contex-dependent nature of intellectual capital its definition varies across business areas For instance the value and level of proficiency of one competency varies across business sectors, so does the used IT means, the personal and professional contact networks which are of more or less importance according to the industry, or even real state infrasctructure location. Another factor that contributes to the non-static definition of IC (intellectual capital) has to do with its dynamic affection to what it's encompassed in its definition, since the importance of strategic assets changes according to the market and to the management perception of the organization. Regarding knowledge management and intellectual capital interrelation Hansen and Alewell (2013) state that "knowledge governance mechanisms constitute a unique intellectual capital architecture that refers to the sum of all knowledge stocks firms utilize for competitive advantage (Kang and Snell 2009, p. 67, with reference to Subramaniam and Youndt 2005), and consists of human, social and organizational capital." The table below (11) presents the definitions of intellectual capital in the selected articles.

Table – 11: Perspectives on Intellectual Capital (IC); Source: Elaborated by the Author	
Author	**Definition**
London,Siva (2011) p.847	Intellectual capital is a firm's collective skills, competences and knowledge and is critical to the sustainability of firms, particularly in international markets."
Suhonen, Paasivaara (2011) p.247	Intellectual capital, which means knowledge, information, intellectual property and experience that, can be put to use to create wealth."
Zhao (2008) p. 806	Intellectual capital is not only a static intangible asset, but a kind of process of 'ideological morphing-formation' and a method of 'goal-reaching'.
Cabello-Medina, López-Cabrales, Valle-Cabrera (2011) p.808	"Conceptualized as the knowledge and knowing capability of an organization, represents one of the most relevant antecedents of innovation, which has become fundamental for achieving competitive advantage."
FitzPatrick, Davey, Muller,Davey (2013) p.87	"A multi-dimensional concept lacking a universal definition; multiple terms used interchangeably. This paper uses intellectual capital as a comprehensive term for 'invisible' assets that contribute to a company's value."

Chau, Moghimi, Popovic (2013) p.11	"Intellectual capital encompasses not only legally enforceable intellectual property (e.g., patents)"
Haesli, Boxall (2005) p.1957	"Intellectual capital within a core capability is comprised of four integrated dimensions. The first two dimensions (employee knowledge and skills, and technical systems) refer to knowledge content, and the third and fourth dimensions (managerial systems, and values and norms) refer to the processes surrounding knowledge creation and control within the organization. Popular writings in recent years on the subject of intellectual capital have defined human capital as one category of intellectual capital (in addition to structural capital and customer capital)".

The structural capital dimension of intellectual capital, encompasses the culture of the organization, the organizational processes, the management beliefs and the systems and informational resources of the organization. This dimension of intellectual capital affects how the human capital of the organization shares and creates knowledge. Accros the literature this form of capital has received several designations such as "cultural capital" (London and Siva; 2011), "internal capital" (FitzPatrick *et al.* 2013) or "organizational capital" (Chau, Moghimi and Popovic 2013). According to London *et al.* (2011) it "entails physical 'dispositions' such as 'building visible buildings, winning design competitions or obtaining important tenders' (Skaates *et al.*, 2002)". The concept of structural capital can also be defined as "the non-human, accumulated knowledge internalized within the structures, processes, and capabilities of the company which remain when 'employees go home for the night'", encompassing "Patents, concepts, trademarks, R&D, hardware, software, databases, managerial attitudes, information-system flows, entrepreneurial culture"(FitzPatrick et al., 2013). There is a complementarity between hard and soft structures regarding knowledge and information flows (Belardo et al. 2002), that help to "capture, exploit or implement existing knowledge" (Sturdy et al. 2012; p.652).

A complementary view is expressed by Esterhuizen *et al.* 2012 which affirms that "A culture of trust as well as a structured knowledge repository is needed and new knowledge behaviors can be initiated through an effective technical and organizational infrastructure." According to Salo (2009) this "structures, mechanisms, norms and activity in the organization are to support the sustainability of the organization" (Mendonca & Kanungo, 2007). The author signals the codified knowledge that the organization posses under the form of documents (e.g. program and activities reports), brochures, bulletins, CD/Video programs, photos of program activities, articles, lessons learned.

The relations that organizations establish with customers, suppliers and competitors are part of the relational capital or social capital of the organization. Relational Capital has an important role in nowadays organizations since it allows "accessing resources and capabilities from and with other actors", contributing to organizational learning and knowledge creation (Land et al., 2012). The author Cabello-Medina et al. (2011) claims that "innovation is essentially an exercise in collaboration" arguing that " social capital plays a key role both directly improving human capital and stressing its effects on innovation." The definition of this concept on the selected articles is presented below (table 12).

Table – 12: Perspectives on Social Capital (SC); Souce: Elaborated by the Author

Author	Definition
London and Siva (2011) p.847	Social capital is the creation of personal relationships and networks based on trust built over time and has relevance for the project team and firm and client networks."
Land, Engelen, Brettel (2012) p.521	"Social capital theory argues that specific elements of external and internal social relationships present valuable learning resources" this view emphasizes the importance of the relational over technical assets of the organization..
Lamb, Sutherland (2010) p. 299	"Social capital – Relationships, social networks and acts of exchange which can be used to strengthen economic and cultural capital."
Cabello-Medina,López-Cabrales, Valle-Cabrera (2011) p.810	It has been conceptualized as the sum of the actual and potential resources embedded within, available through and derived from the networks of relationships possessed by an individual or social unit."
Navarro, Dewhurst, Eldridge (2010) p.389	"Customer capital is the value (i.e., the contribution to current and future revenues) that results from an organization's relationship with its customers".
Sun, Anderson (2012) p.315	"Social capital is built through past interactions, and consists of who leaders know and how well they are connected to important outside stakeholders and potential collaborators. This social capital can be leveraged in order to advance collaboration agendas."
Cappellin (2012) p. 909	"Thus, community networks require the sharing of a homogeneous culture and common values and are characterized by the existence of trust relationships and common institutions and specialized intermediate social organizations, which are defined as social capital."
FitzPatrick, Davey, Muller,Davey (2013) p.87	"The value embedded in the company's relationships with its external stakeholders, often referred to as the company's 'customer capital'. Examples: Marketing channels, brand names, reputation, distribution channels, customer satisfaction, franchisees, suppliers, and partners."
Chau, Moghimi, Popovic (2013) p.11	"Social Capital (eg, knowledge about client preferences and compliance, which is inscribed in relations among clinicians, researchers, and families)."
Huber (2013) p.168	"Personal knowledge networks refers to a set of individuals and their knowledge relationships, whereas personal knowledge con- tact refers to the person which whom somebody has a knowledge relationships with. The qualitative strength of personal relation- ships can have implications for knowledge sourcing, and there can be a trade-off between maintaining a high number of weak ties versus few strong ties ".

As Suhonen and Paasivaara (2011) state "human capital can be seen as the only generative intangible and therefore central element of intellectual capital (Ahonen 2000)". One of the most demanding challenges of human resources area for organizations nowadays is to " put the right person in the right position", or how to allocate human capital, which according to Zhao (2008) should be determined by the "compulsory

education", "professional education and training" and the "accumulation of experience" that an knowledge worker posses.

According to Vidal-Hurtado *et al*. (2011) the accumulation of human capital is of crucial importance to organizations and in oder to do so firms must focus "in identifying, providing, supporting and developing those human resources capable of generating resources and organisational capacities leading "to a sustainable competitive advantage. According to Molineux (2012) the "gap between the performance of the organization's human capital and its potential" may result in "loss of strategic advantage". The table (13) presents the definitions of human capital in the selected articles:

Table – 13: Perspectives on Human Capital (HC); Source: Elaborated by the Author	
Author	**Definition**
Suhonen, Paasivaara (2011) p.247	"Human capital embodies the knowledge, talent and experience of employees."
Lamb, Sutherland (2010) p. 297	"Individual's level of human capital, comprising of judgement, skills, experience and intelligence, differs in degree of value in the external labour market, human capital consists of both company specific skills and general skills. In the new world of work, the general skills become more relevant and valuable in the broader labour market."
Hansen, Alewell (2013) p.6	"Human capital is not the only part of the organization's overall knowledge stocks that influence the constitution, development and reproduction of organizational capabilities."
Cabello-Medina, López-Cabrales, Valle-Cabrera (2011) p.809	"The human capital of an organization is defined as the knowledge, skills and abilities (KSA) residing with and utilized by individuals."
De Winne, Sels (2010) p. 1867	"Human capital refers to the unique set of knowledge, skills and abilities of workers acquired from education and experience. It reflects a large part of the stock of knowledge within an organization."
FitzPatrick, Davey, Muller,Davey (2013) p.87	"The resources that relate to individuals and which cannot be replaced by machines or written down. They are a key source of potential strategic renewal. An individual chooses to give a company access to these. Examples: Education, skills, attitude, know-how, innovativeness, intellectual agility, competencies, training of employees, and directors/executives."
Chau, Moghimi, Popovic (2013) p.11	"Human capital (eg, knowledge, skills, and capabilities of rehabilitation engineers and clinicians)"
Vidal-salazar, Matías-reche, Hurtado-torres (2013) p.2685	"Human capital, which represents the employees' knowledge, skills and capabilities."
Prieto Pastor, Pérez Santana, Martín Sierra (2010) p. 2455	"Employees' skills and abilities have long been conceptualized as human capital"

4 - Human Capital

The successful implementation of KM in organizations promotes the enhancement and the restoring of Human Capital, atesting the interdependence between the efficacy of KM process and HC managment. Despite the support that KM provides in managing human capital, through the development of core competencies "and understanding strategic know-how" (Kang *et al*., 2005) in practice "organizations have difficulty in connecting these two disciplines" wich frequently results in finantial and time losses (Cabrita and

Cruz-Machado; 2012). The "war for talent", an expression coined by McKinsey & Company consultants in the 1990´s "to highlight the key role of leaders and high potentials to the success of leading companies" is based in three factors highlighted by Scullion *et al*. (2012):1-the quality of management in the organization; 2-"shortages of managerial and professional talents" in globalized businesses; and 3-skills shortage in international businesses. The development of the organization´s human capital expertise has a straight linkage with the motivation and engagement in business performance as for instance innovation performance, due to KM tools and practices knowledge within the company is located and distributed (Chen and Huang; 2009).

4.1 – Leadership & KM

As Phillips (2005) points out "knowledge is power, but one can only assume knowledge is power if" it´s managed appropriately. Despite the relevance of the phenomena in humankind history, since ancient times, leadership studies have a century-long history and they have been conducted mainly in the Western enconomies and cultures (Cao *et al*. 2012). According to Northouse (2004) in Cummings *et al*. (2010) leadership is "a process whereby an individual influences a group of individuals to achieve a common goal'. The leadership theories accros the scientific literature are comprised in two categories, according to their "focus on people and relationships to achieve the common goal, and those that focus on the tasks to be accomplished" (Cummings et al. 2010). These two major categories, the relationally focused leadership styles and task focused (or non-relationally focused), encompass various leadership theories within them. The 14 below displays all definitions of the leadership theories within the selected articles classified according to the two categories of leadership theories:

Table – 14: The main Leadership Theories according to relational and task focus perspectives	
Relationally Focused Leadership Styles	**Task Focused (or non-relationally focused)**
"Transformational Leadership: which motivates others to do more than they originally intended and often more than they thought possible" ;	"Management by Exception: focuses on monitoring task execution for any problems that might arise and correcting those problems to maintain current performance levels" ;
"Individualized Consideration: which focuses on understanding the needs of each follower and works continuously to get them to develop to their full potential";	"Laissez-Faire: conceptualized as passive avoidance of issues, decision-making and accountability (Avolio et al., 1999). Passive – avoidant leadership tends to react only after problems have become serious to take corrective action, and often avoids making any decisions at all";

"Resonant Leadership: that inspires, coaches, develops and includes others even in the face of adversity (Boyatzis and McKee, 2005; Goleman et al., 2002)";

LMX (Leader Memeber Exchange):
"Emphasized how leaders develop two distinct types of relationships with their followers: one based on "influence without authority" and one based on "influence with authority" (…). The ability of the leader to influence without authority was characterized by higher levels of mutual support, trust, loyalty, and latitude given to their followers. Conversely, influence with authority was based primarily on more formal supervisory roles and techniques".

"Trait Theories: argued that certain personality characteristics distinguish leaders from non-leaders. The initial hope was that the identification of such traits (such as intelligence, sociality, and dependability) would enhance personnel selection".

"Transactional Leadership: emphasize the transaction or exchange that takes place among leaders, colleagues and followers to accomplish the work" ;

"Dissonant Leadership Styles: characterized by pacesetting and command- ing styles that undermine the emotional foundations required to support and promote staff success";

"Instrumental Leadership: focuses on the strategic and task-oriented developmental functions of leaders";

"Behavioral Theories: Identifies specific behaviors and behavioral dimensions that would distinguish effective leaders from ineffective ones";

"Contingency Theories: took into account situational factors acting as potential constraints or opportunities for leaders. (…) posited that leadership effectiveness depends on the interaction of leadership style with features of the situation he referred to as "situational favorableness".

"Shared Leadership: a dynamic, interactive influence process among individuals in groups for which the objective is to lead one another to the achievement of group or organizational goals or both."

> **Hernandez, Eberly, Avolio and Johnson (2011) adapted from "The loci and mechanisms of leadership: Exploring a more comprehensive view of leadership theory"; p.1169-1173**

Regarding KM and Human Capital Dimension Leadership it´s worth to mention that the Practical Approach to KM is related with Relationally Focused Leadership Styles, and the Process Approach to KM is related with Task Focused (or non-relationally focused).

As Perry *et al*. (2010) state "leadership skills, traits, behaviors and styles" interact with situational variables, resulting in higher or lower leadership effectiveness. On the other hand the author recognizes that "managerial and leadership skills, experience, technical expertise (…) contribute to leadership effectiveness". The skills, experience and expertise are outcomes that are attained through the action of KM, specifically for instance through "workbase learning and capability development in reality of everyday" (Phillips, 2005) working activities.

The proponents of the Task Focused (or non-relationally focused) leadership theories (Fairhurst and Uhl-Bien, 2012; Perry *et al*., 2010; Fitzgerald *et al*. 2013) argue that these approaches measure in a qualitative and quantitative form the complex phenomena of Leadership enhancing its efficacy on the organization allowing a more holistic approach since they also ecompass social, cultural dimension (e.g Organizational Discourse

Analysis). On the words of Walker *et al.* 2011 task focused Leadership is defined as a "a multifaceted process of identifying a goal or target, motivating other people to act, and providing support and motivation to achieve mutually negotiated goals". The use of enterprise resource planning or the scorecard by managers as a mean to monitor and guide performance has been advocated by a vast number of Leadership studies in both the corporate and research sector (Kirkman and Gibson 2004; Huang, Chu and Chiau, 2011; Lloyd-Walker and Walker, 2011; Kim *et al.* 2012).

The task-oriented Leadership styles priviledge behaviors related to expectancies in achieving goals of the group. Those behaviors include provide feedback, coordinate subordinates´activities, maintain communication channels, plann activities, direct activities and monitor compliance through procedures. Some technological means related to the KM Process Approach that can leverage these behaviors are intranets and network structures (Liu, Chiu, Chiu; 2010; Asoh, Belardo and Nelson, 2002; Bell DeTienne, Dyer, Hoopes and Harris; 2004), "task technology" (Kim, Sharman, Cook-Cottone and Rao; 2012), information technology (Chen and Wu; 2011), online virtual environments (Sallán, Gómez, Asparó and Carme; 2010).

Leadership Attributes

According to Dorjgotov *et al.* (2012) "knowledge is active because it is action oriented and subjective because knowledge is information in a certain context", therefore leaders can benefit of KM processes to provide them with the right information at the right time enhancing their decision-making quality and quickness. According to Kang *et al.* (2005) "KM is about building core competencies and understanding strategic know-how". These two notions are complementary according to transactional Leadership, since the leader clarifies to followers what is the strategic knowledge they should use and makes sure the couse of action and knowledge utilization are appropriate to succeed and complete the task (Bass and Avolio, 1994 in Stafford *et al.* 2010). On the other hand both general leadership and research development management literature "emphasize the importance of transformational leadership" (Djorgotov et al 2012) because one key attribute of effective leadership is manage knowledge to promote knowledge creation and sharing within   the   organization.

In this literature review there were identified the attributes of Leadership for KM present in the selected articles. The table 15 presents a total identification of 59 attributes classified per author.

From the 82 articles that were analyzed for Leadership, "Motivational" is the more mentioned, with 62 mentions, followed by the attributes "Formal Leadership", with 46 mentions and "Transformational", with 44 mentions.

The less relevant 3 attributes were "Morally Virtuous", with 4 mentions, "Provides Feedback", with 3 mentions, "Corageous", with 2 mentions.

The authors that identified more attributes were Morgeson, DeRue, Karam (2010), with 26, followed by Söderlund and Maylor (2012) and Zhang, Jia, Gu (2012) with 21 attributes each. Lastly, Rosing, Frese and Bausch (2011) with 20 attributes.

References Atributes	SUM
Attentive to Followers Needs	27
Awareness	8
Charismatic	30
Clarity	8
Commitment	12
Communicative	14
Confidence	18
Conscientiousness	6
Control	15
Convey Positivity	17
Cooperation	13
Coordinator	20
Courageous	2
Creative	9
Decision Maker	20
Provides Development	4
Efficient	18
Emotional Intelligent	19
Empowering	9
Encourage Followers	41
Ethical	7
Experienced	11
Expert	9
Facilitator	10
Fair	9
Provides Feedback	3
Formal Leadership	46
Fosters Individualized Consideration	11
Fosters Intellectual Stimulation	15
Fosters Psychological Commitment	6
Fosters Human Values	18
Ideas Provider	16
Influential	19
Informal Leadership	42
Initiative	12
Inspirational	23
Intelligent	22
Maintains Relationships	22
Managing Employees	17
Mitigate Challenges	9
Mobilize Workers	6
Morally Disciplined	7
Morally Virtuous	4
Motivational	62
Orientation Provider	21
Fosters Performance	8
Provides Perspective	6
Enables Planning	15
Power to Mobilize Resources	4
Enables Problem Solving	6
Provides Self-Efficacy	12
Quality Supervisor	3
Responsible	17
Share Vision	9
Source of Knowledge	5
Strategic Thinking	11
Provides Support	17
Transactional	26
Transformational	44
SUM	**920**

54

References Leadersip:			
A1 -Chi, Lan, Dorjgotov (2012)	A20- Killen,Jugdev,Drouin, Petit (2012)	A-39 Martín-Alcázar, Romero-Fernández, Sánchez-Gardey (2012)	A-58 Huang, Hsu, Chiau (2011)
A2-Awazu, Desouza (2004)	A21- Irani, Sharif (2012)	A-40 Paulo Ferreira (2009)	A-59 Chen (2011)
A3- Eppler, Sukowski (2000)	A-22 Gairín-Sallán, Rodríguez-Gómez,Armengol-Asparó (2010)	A-41 Lakshman (2005)	A-60 Jackson (2012)
A4- Salo (2009)	A-23 A. Jones (2005)	A-42 García-Morales, Jiménez-Barrionuevo, Gutiérrez-Gutiérrez (2012)	A-61 Liu, Chiu, Chiu (2010)
A5- Van Grinsven, Visser (2011)	A-24 Alvesson, Spicer (2012)	A-43 Bellou (2011)	A-62 Wright, Quick (2011)
A6- Bhatnagar (2007)	A-25 Zhang, Fu, Xi, Li, Xu, Cao, Li, Ma, Ge (2012)	A-44 Nienaber (2010)	A-63 Yee, Lee, Yeung, Cheng (2013)
A7- Meng (2012)	A26- Fitzgerald, Ferlie, McGivern, Buchanan (2013)	A-45 DeChurch, Hiller, Murase, Doty, Salas (2010)	A-64 Taylor, Cocklin, Brown, Wilson-Evered (2011)
A8-Thomas, Mengel (2008)	A-27 Fairhurst, Uhl-Bien (2012)	A-46 Carmeli, Schaubroeck, Tishler (2011)	A-65 Contractor, DeChurch, Carson, Carter, Keegan (2012)
A9- Suhonen, Paasivaara (2011)	A-28 Söderlund and Maylor (2012)	A-47 von Lubitz, Beakley, Patricelli (2008)	A-66 Phillips (2005)
A10- Menkhoff, Loh, Wah, Evers (2006)	A-29 Fernández, Cho, Perry (2010)	A-48 Smith, Anell, Busse, Crivelli, Healy, Lindahl, Westert, Kene (2012)	A-67 Supic, Bjegovic, Marinkovic, Milicevic, Vasic (2010)
A11- Kim, Sharman, Cook-Cottone, Rao, Upadhyaya (2012)	A-30 Hansson, Mønsted (2008)	A-49 Cowan-Sahadath (2009)	A-68 Yeh, Huang, Yeh (2011)
A12-Littleton (2009)	A-31 Benson, Blackman (2011)	A-50 Van Grinsven, Visser (2011)	A-69 Gerson (2005)
A13- Cavazos, Patel, Wales (2012)	A-32 Lord, Shondrick (2011)	A-51 Shamir (2011)	A-70 Hernandez, Eberly, Avolio, Johnson (2011)
A14- VanVactor (2012)	A-33 Kirkman, Rosen, Tesluk, Gibson (2004)	A-52 Argote, Miron-Spektor (2011)	A-71 Cascio, Mariadoss, Mouri (2010)
A15- Lakshman, Weber, Fried (2011)	A-34 Andrews, Richard, Robinson, Celano, Hallaron (2012)	A-53 Chen, Wu (2011)	A-72 Sun, Anderson (2012)
A16- Rosing, Frese, Bausch (2011)	A-35 Johansson, Andersson, Gustafsson, Sandahl (2010)	A-54 Zhang, Jia, Gu (2012)	A-73 Phan, Abdallah, Matsui (2011)
A17-Lloyd-Walker, Walker (2011)	A-36 Markham (2012)	A-55 Walker, Cooke, Henderson, Creedy (2011)	A-74 Waldman, Balthazard, Peterson (2011)
A18- Dyck, Starke, Mischke, Mauws (2005)	A-37 Pinel, Pecos (2012)	A-56 Caldwell, Dixon, Floyd, Chaudoin, Post, Cheokas (2012)	A-75 Diddams, Chang (2012)
A19- DeTienne, Dyer, Hoopes, Harris (2004)	A-38 Morgeson, DeRue, Karam (2010)	A-57 Giritli, Yazıcı, Oraz, Acar (2013)	A-76 Asoh, Belardo, Neilson (2002)

Leadership Practices

This literature review identified all the KM practices present in the 82 articles, in a total of 154. The table 16 presents the practices per KM activity and per author.

The analysis of the articles reveals that the KM practices more represented were Knowledge Utilization (with 39 practices) and Knowledge Distribution (with 33 practices).

The authors that identified more KM practices were Chi, Lan, Dorjgotov (2012); Awazu, Desouza (2004); Eppler, Sukowski (2000); Bhatnagar (2007); Meng (2012); Goel, Sharma, Rastogi (2010) all with 5.

Table 16-Leadership KM Practices in the Literature; Source: elaborated by the author

References to KM Practices	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12	A13	A14	A15	A16	A17	A18	A19	A20	A21	A22	A23	A24	A25	A26	A27	A28	A29	A30	A31	A32	A33	A34	A35	A36	A37	A38	A39	A40	A41	A42	A43	A44	A45	A46	A47	A48	A49	A50	A51	A52	A53	A54	A55	A56	A57	A58	A59	A60	A61	A62	A63	A64	A65	A66	A67	A68	A69	A70	A71	A72	A73	A74	A75	A76	A77	A78	A79	A80	A81	A82	SUM
Knowledge Aquisition	1	1	1	1	1		1	1	1			1	1	1		1				1															1				1															1								1			1		1	1														1	24
Knowledge Development	1	1		1	1			1							1	1	1	1	1	1	1				1	1					1			1																			1	1	1									1		1	1										1	1	29
Knowledge Distribution	1	1	1		1	1			1	1	1			1		1	1			1		1	1			1	1	1		1						1	1	1	1					1							1	1	1			1	1				1	1								1							1	1	33
Knowledge Utilization	1	1	1	1		1	1						1		1			1	1	1				1			1				1	1	1			1	1	1		1	1	1	1	1		1	1	1			1			1	1			1	1		1		1	1	1	1	1	1		1	1		1		1		1	39
Knowledge Retention	1	1	1		1	1			1	1	1								1				1	1				1	1		1		1			1			1								1	1				1				1								1	1	1			1	1								1	29
SUM	5	5	5	3	5	3	5	5	2	1	4	1	2	2	3	2	4	1	4	4	1	1	3	2	1	2	1	1	1	1	2	1	2	1	1	1	2	1	4	2	1	2	1	1	2	1	1	1	1	2	2	1	1	2	2	1	1	1	2	2	1	1	2	1	4	4	2	1	1	2	2	1	1	1	1	2	1	1	1	1	5	154

References Leadersip:				
A1 -Chi, Lan, Dorjgotov (2012)	A20- Killen,Jugdev,Drouin, Petit (2012)	A-39 Martín-Alcázar, Romero-Fernández, Sánchez-Gardey (2012)	A-58 Huang, Hsu, Chiau (2011)	A-77 Cummings, MacGregor, Davey, Lee, Wong, Lo, Muise, Stafford (2009)
A2-Awazu, Desouza (2004)	A21- Irani, Sharif (2012)	A-40 Paulo Ferreira (2009)	A-59 Chen (2011)	A-78 Raub, Von Wittich (2004)
A3- Eppler, Sukowski (2000)	A-22 Gairín-Sallán, Rodríguez-Gómez,Armengol-Asparó (2010)	A-41 Lakshman (2005)	A-60 Jackson (2012)	A-79 Simosi, Xenikou (2010)
A4- Salo (2009)	A-23 A. Jones (2005)	A-42 García-Morales, Jiménez-Barrionuevo, Gutiérrez-Gutiérrez (2012)	A-61 Liu, Chiu, Chiu (2010)	A-80 Furunes, Mykletun, Solem (2010)
A5- Van Grinsven, Visser (2011)	A-24 Alvesson, Spicer (2012)	A-43 Bellou (2011)	A-62 Wright, Quick (2011)	A-81 Ensari, Riggio, Christian, Carslaw (2011)
A6- Bhatnagar (2007)	A-25 Zhang, Fu, Xi, Li, Xu, Cao, Li, Ma, Ge (2012)	A-44 Nienaber (2010)	A-63 Yee, Lee, Yeung, Cheng (2013)	A-82 Goel, Sharma, Rastogi (2010)
A7- Meng (2012)	A26- Fitzgerald, Ferlie, McGivern, Buchanan (2013)	A-45 DeChurch, Hiller, Murase, Doty, Salas (2010)	A-64 Taylor, Cocklin, Brown, Wilson-Evered (2011)	
A8-Thomas, Mengel (2008)	A-27 Fairhurst, Uhl-Bien (2012)	A-46 Carmeli, Schaubroeck, Tishler (2011)	A-65 Contractor, DeChurch, Carson, Carter, Keegan (2012)	
A9- Suhonen, Paasivaara (2011)	A-28 Söderlund and Maylor (2012)	A-47 von Lubitz, Beakley, Patricelli (2008)	A-66 Phillips (2005)	
A10- Menkhoff, Loh, Wah, Evers (2006)	A-29 Fernández, Cho, Perry (2010)	A-48 Smith, Anell, Busse, Crivelli, Healy, Lindahl, Westert, Kene (2012)	A-67 Supic, Bjegovic, Marinkovic, Milicevic, Vasic (2010)	
A11- Kim, Sharman, Cook-Cottone, Rao, Upadhyaya (2012)	A-30 Hansson, Mønsted (2008)	A-49 Cowan-Sahadath (2009)	A-68 Yeh, Huang, Yeh (2011)	
A12-Littleton (2009)	A-31 Benson, Blackman (2011)	A-50 Van Grinsven, Visser (2011)	A-69 Gerson (2005)	
A13- Cavazos, Patel, Wales (2012)	A-32 Lord, Shondrick (2011)	A-51 Shamir (2011)	A-70 Hernandez, Eberly, Avolio, Johnson (2011)	
A14- VanVactor (2012)	A-33 Kirkman, Rosen, Tesluk, Gibson (2004)	A-52 Argote, Miron-Spektor (2011)	A-71 Cascio, Mariadoss, Mouri (2010)	
A15- Lakshman, Weber, Fried (2011)	A-34 Andrews, Richard, Robinson, Celano, Hallaron (2012)	A-53 Chen, Wu (2011)	A-72 Sun, Anderson (2012)	
A16- Rosing, Frese, Bausch (2011)	A-35 Johansson, Andersson, Gustafsson, Sandahl (2010)	A-54 Zhang, Jia, Gu (2012)	A-73 Phan, Abdallah, Matsui (2011)	
A17-Lloyd-Walker, Walker (2011)	A-36 Markham (2012)	A-55 Walker, Cooke, Henderson, Creedy (2011)	A-74 Waldman, Balthazard, Peterson (2011)	
A18- Dyck, Starke, Mischke, Mauws (2005)	A-37 Pinel, Pecos (2012)	A-56 Caldwell, Dixon, Floyd, Chaudoin, Post, Cheokas (2012)	A-75 Diddams, Chang (2012)	
A19- DeTienne, Dyer, Hoopes, Harris (2004)	A-38 Morgeson, DeRue, Karam (2010)	A-57 Giritli, Yazıcı, Oraz, Acar (2013)	A-76 Asoh, Belardo, Neilson (2002)	

.2 – Creativity & KM

Many authors argue that creativity and innovation are today´s source of sustainable competitive advantage (DiLiello *et al*., 2011; Chen *et al*., 2012; Sturdy *et al*., 2012; Kragh *et al*., 2013; Defillippi *et al*,2007). Despite these concepts are sometimes viewed as the same, it´s important to mention that they are not. There is consensus in defining "innovation as the process of implementing creative ideas in an organization" (DiLiello *et al*., 2011; Chen *et al*., 2012). At the same time creativity is defined as a "recombination of existing knowledge into novel" (Rosa, Qualls and Fuentes; 2008) dispositions. Therefore it makes sense to approach creativity as an individual capacity that as repercussions accros the organization in form of innovation (DiLiello *et al*. 2011; Phipps *et al*., 2012; Ceylan and Dul, 2011). According to Yeh *et al*. (2012) "KM depends on several core competencies, including the acquisition of knowledge and storage, knowledge application, knowledge sharing, and knowledge creation (Alavi & Leidner, 2001)". This implies that organizations must use its internal processes, supporting its employees to acquire and develop their skills, in order to allow the improvement of individual capacity of being creative (Jiang *et al*. 2013; Jiang *et al*., 2013), wich will have a global impact across the organization in its innovative capacity towards the market. The absorptive capacity of the organization and the notion of developing dynamic capabilities will have a considerable wheight in determining the quickness of the response that organizations will give to the market demands fostering a sustainable competitive advantage (Chang and Tzeng, 2010; Luukka *et al*., 2011).

Many authors have stated the importance of organizational routines in "channeling the creative process and providing a structure that facilitates knowledge creation and implementation" (Argote and Spektor, 2009).

Table – 17: Perspectives on Creativity; Source: Elaborated by the Author	
Author	**Creativity Definition**
Yeh, Yu-chu	Production of novel and useful ideas, being innovation the implementation of creative
Yeh, Yi-ling	ideas within an organization; all innovation begins with creative ideas. Creativity is a
Chen, Yu-Hua	necessary condition for subsequent innovations. The focus of creativity is primarily
2012	on the individual levels, innovation is more at the group and organizational levels;
DiLiello, Trudy C	The process of forming novel, useful and appropriate ideas;
Houghton, Jeffery D	
Dawley, David	
2011	
Coelho,	The development of ideas about prac-

Augusto, Lages 2011	tices, procedures, products, and/or services that are novel and potentially useful to an organization;
Berman, Kim 2010	Development of ideas or practices that are novel and actionable in addressing a specific problem
Rosa, Qualls and Fuentes (2008)	The recombination of existing knowledge into novel configurations
Phipps,College, State Prieto (2012)	Creativity involves the generation of ideas, procedures, or products that are novel or original, and potentially relevant for, or useful to, an organization. Aresponse that is novel, appropriate, and useful to the task at hand.
Jiang, Wang, Zhao (2013)	A context-specific subjective judgment of the novelty and value of an outcome of an individual's or a collective's behavior
Song, Nerur, Teng (2007)	Outcome of work practices that generate new and novel ideas or solutions. The ability to generate new and novel ideas or solutions ;
Stocker,Granitzer,Hoefler, Pammer, Willfort, Koeck, Tochtermann (2008)	Creativity is the process of generating new ideas on an individual or group basis;
Choi, Lee (2003)	Creativity is the capability of creating valuable and useful products, services, ideas, or procedures by individuals working together in a complex social system.

The literature also refers enablers to prompt creativity at an organizational level and at a job level. On the organizational it as been identified factors such as top level leadership (Schmitt et al. 2012), organizational culture (Liao et al. 2012; Shen et al. 2010), new resource and development activities (Jiang et al., 2013), organizational structure (Donaldson et al. 2013; Soderlund, 2010; Argote and Spektor; 2009) and organizational learning (Choi and Lee, 2003; Paladino and Johnston, 2007). At the job level the enablers that are worth highlighting are the direct supervisor´s leadership (Yang, 2011; Teerajetgul et al. 2009) and co-worker support (Loke et al. 2012; Han et al. 2010).

Creativity Attributes

This literature review has identified 67 attributes of Creativity for KM present in the selected articles. The table 18 presents classification of attributes according to author.

From the 69 articles that were analyzed for Creativity, "Group" is the more mentioned, with 55 mentions, followed by the attributes "Innovation", with 52 mentions and "New", with 50 mentions. It´s worth to mention the attributes "Environment" and "Performative" both referenced 49 times.

The less relevant attributes were "Relational", "Recombination" and "Value Creation", with 6 mentions, both "Spontaneous" and "Transformational" with 8 mentions.

The authors that identifies more attributes are Sung, Choi (2012), with 50, followed by Phipps, Prieto (2012), Jiang, Wang and Zhao (2012) and Yeh, Yeh, Chen (2012) with 45 attributes each.

References Attributes	SUM
Ability	10
Absorptive Capacity	10
Advantage	38
Atmosphere	8
Autonomy	23
Behavior	29
Brand	6
Capability	27
Change	44
Climate	22
Collective	31
Combination (Internal/External)	29
Competitive	36
Complex	36
Conflict	24
Construct	36
Conversion	7
Cooperation	18
Creation	31
Critical	43
Diversity	23
Dynamic	46
Engagement	10
Environment	49
Experience	45
Explicit	33
Exploration	21
Firm-Specific Routine	15
Generation	31
Group	55
Ideas	48
Implementation	26
Improvement	25
Individual	22
Initiative	24
Innovation	52
Interaction	41
Learn	46
New	50
Openess	18
Organizational	46
Performative	49
Personality	47
Practices	14
Problem Solving	14
Process	27
Product	19
Project	22
Recombination	6
Relational	6
Service	16
Shared Experiences	16
Skills	23
Social	32
Solution	30
Spontaneous	8
Tacit	21
Talent	18
Teaching	13
Team	45
Techniques	21
Thinking (styles/skills/original/new	31
Time	21
Training	20
Transformational	8
Value Creation	6
Workplace	22
SUM	**1767**

Column totals (A1–A69): 50, 40, 9, 3, 45, 28, 10, 41, 37, 35, 32, 7, 37, 6, 6, 4, 41, 36, 6, 29, 3, 9, 27, 15, 11, 38, 39, 40, 23, 9, 11, 30, 41, 45, 33, 36, 7, 41, 34, 30, 45, 40, 11, 19, 25, 33, 7, 39, 22, 43, 22, 39, 30, 22, 7, 29, 8, 23, 7, 30, 32, 30, 30, 9, 36, 28, 44, 13, 42 — Total: 1767

References Creativity:			
A - 1 Sung, Choi (2012)	A - 20 Gray, Parise, Lyar (2011)	A - 39 Ortiz, Benito, Galende (2009)	A - 58 Medina, Cabrales and Cabrera (2011)
A - 2 Rosa , Qualls, Fuentes (2008)	A - 21 Boeker, Kariachalil (2002)	A - 40 Ng, Anuar (2011)	A - 59 Gong, Cheung, Wang, Huang (2010)
A - 3 Leiponen, Helfat (2010)	A - 22 Martinez, Ortiz (2011)	A - 41 Yeh, Yeh, Chen (2012)	A - 60 Calantone, Cavusgil, Zhao (2001)
A - 4 Jeff Kehoe (2010)	A - 23 Zhu, Zhang (2011)	A - 42 Soderlund (2009)	A - 61 Unger, Gemünden, Aubry (2012)
A - 5 Phipps, Prieto (2012)	A - 24 Chen (2007)	A - 43 Lee, den Steen (2007)	A - 62 Han, Chiang, Chang (2010)
A - 6 Dul, Jaspers (2011)	A - 25 Castiaux, Paque (2009)	A - 44 Donaldson, Qiu, Luo (2013)	A - 63 Skok, Kalmanovitch (2005)
A - 7 Gebert, Boerner, Kearney (2010)	A - 26 Schmitt, Buisine, Chaboissier, Aoussat, Vernier (2012)	A - 45 Ojiako, Ashleigh, Chipulu, Maguire (2010)	A - 64 Liao, Chang, Hu, Yueh (2011)
A - 8 Argote and Spektor (2011)	A - 27 Majchrzak, Cooper, Neece (2004)	A - 46 Wood, Menezes (2011)	A - 65 Yang (2011)
A - 9 Litchfield, Gilson (2013)	A - 28 Coelho, Augusto, Lages (2011)	A - 47 Montag, Maertz Jr., Baer (2005)	A - 66 Shen, D'Netto, Tang (2010)
A - 10 Song, Teng, Nerur (2007)	A - 29 Howard, Culley, Dekoninck (2010)	A - 48 Dul, Ceylan (2011)	A - 67 Dillielo, Houghton, Dawley (2011)
A - 11 van Burg, Podoynitsyna, Beck, Lommelen (2012)	A - 30 Perry, Wilhelm (2010)	A - 49 Lee, Lee (2010)	A - 68 Lin, Huang (2010)
A - 12 Matusik, Heeley (2005)	A - 31 Tian, Nakamori (2011)	A - 50 Choo, Schroder, Linderman (2007)	A - 69 Berman, Kim (2010)
A - 13 Marsh, Stock (2006)	A - 32 Stocker, Granitzer, Hoefler, Pammer, Willfort, Koeck, Tochtermann (2008)	A - 51 Lee, Choi (2003)	
A - 14 Quevedo, Verdu, Soriano, Ribeiro (2011)	A - 33 Andersen, Kragh (2012)	A - 52 Teerajetgul, Chareonngam, Wethyavivorn (2009)	
A - 15 Gray (2003)	A - 34 Jiang, Wang, Zhao (2012)	A - 53 Johnston, Paladino (2007)	
A - 16 Marc Abrahams (2009)	A - 35 London, Siva (2011)	A - 54 Martins, Shalley (2011)	
A - 17 DeFillipini, Grabher, Jones (2007)	A - 36 Balogun and Jenkins (2003)	A - 55 Chapin (2010)	
A - 18 Cappellin (2007)	A - 37 Fee, Gray (2003)	A - 56 Loke, Downe, Sambasivan, Khalid (2012)	
A - 19 Fliaster, Schloderer (2010)	A - 38 Huang, Tansley (2012)	A - 57 Somech, Zahavy (2005)	

Creativity Practices

This literature review identified all the KM practices present in the 69 articles, in a total of 105 practices. The table 19 displays the practices per KM activity and per author.

The analysis of the articles reveals that the KM practices more represented were Knowledge Development (29 practices) and Knowledge Utilization (29 practices).
The authors that identified more KM practices were Sung and Choi (2012), Medina, Cabrales and Cabrera (2011), Balogun and Jenkins (2003) with 4 practices; followed by Phipps, Prieto (2012); Argote and Spektor (2011); Marsh and Stock (2006); Liao, Chang, Hu, Yueh (2011) all authors with 3 practices.

Table 19- Creativity KM Practices in the Literature; Source: elaborated by the author

References to KM Practices	A-1	A-2	A-3	A-4	A-5	A-6	A-7	A-8	A-9	A-10	A-11	A-12	A-13	A-14	A-15	A-16	A-17	A-18	A-19	A-20	A-21	A-22	A-23	A-24	A-25	A-26	A-27	A-28	A-29	A-30	A-31	A-32	A-33	A-34	A-35	A-36	A-37	A-38	A-39	A-40	A-41	A-42	A-43	A-44	A-45	A-46	A-47	A-48	A-49	A-50	A-51	A-52	A-53	A-54	A-55	A-56	A-57	A-58	A-59	A-60	A-61	A-62	A-63	A-64	A-65	A-66	A-67	A-68	A-69	SUM
Knowledge Aquisition	1	1	1		1	1		1			1		1		1						1				1												1	1	1	1			1						1							1		1					1				1					1	23
Knowledge Development	1	1			1	1		1	1	1			1	1		1							1	1		1		1			1							1		1		1	1	1	1				1	1	1			1		1	1		1				1		1				1	25
Knowledge Distribution	1		1	1			1	1		1							1	1	1	1							1	1				1										1			1										1	1		1		1			1	1				1	20
Knowledge Utilization	1				1							1	1				1										1	1	1	1			1				1	1		1		1	1			1		1	1	1	1		1		1		1	1	1		1			1	1		1		25
Knowledge Retention													1																							1							1													1					1								6
SUM	4	2	2	1	3	2	1	3	1	2	1	2	3	1	1	2	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	2	1	4	2	1	1	1	1	1	2	1	2	1	1	2	1	2	2	1	1	2	1	2	1	2	2	1	1	2	4	1	1	1	2	1	3	1	1	1	2	10

References Creativity:			
A - 1 Sung, Choi (2012)	A - 20 Gray, Parise, Lyar (2011)	A - 39 Ortiz, Benito, Galende (2009)	A - 58 Medina, Cabrales and Cabrera (2011)
A - 2 Rosa , Qualls, Fuentes (2008)	A - 21 Boeker, Kariachalil (2002)	A - 40 Ng, Anuar (2011)	A - 59 Gong, Cheung, Wang, Huang (2010)
A - 3 Leiponen, Helfat (2010)	A - 22 Martinez, Ortiz (2011)	A - 41 Yeh, Yeh, Chen (2012)	A - 60 Calantone, Cavusgil, Zhao (2001)
A - 4 Jeff Kehoe (2010)	A - 23 Zhu, Zhang (2011)	A - 42 Soderlund (2009)	A - 61 Unger, Gemünden, Aubry (2012)
A - 5 Phipps, Prieto (2012)	A - 24 Chen (2007)	A - 43 Lee, den Steen (2007)	A - 62 Han, Chiang, Chang (2010)
A - 6 Dul, Jaspers (2011)	A - 25 Castiaux, Paque (2009)	A - 44 Donaldson, Qiu, Luo (2013)	A - 63 Skok, Kalmanovitch (2005)
A - 7 Gebert, Boerner, Kearney (2010)	A - 26 Schmitt, Buisine, Chaboissier, Aoussat, Vernier (2012)	A - 45 Ojiako, Ashleigh, Chipulu, Maguire (2010)	A - 64 Liao, Chang, Hu, Yueh (2011)
A - 8 Argote and Spektor (2011)	A - 27 Majchrzak, Cooper, Neece (2004)	A - 46 Wood, Menezes (2011)	A - 65 Yang (2011)
A - 9 Litchfield, Gilson (2013)	A - 28 Coelho, Augusto, Lages (2011)	A - 47 Montag, Maertz Jr., Baer (2005)	A - 66 Shen, D'Netto, Tang (2010)
A - 10 Song, Teng, Nerur (2007)	A - 29 Howard, Culley, Dekoninck (2010)	A - 48 Dul, Ceylan (2011)	A - 67 Dillielo, Houghton, Dawley (2011)
A - 11 van Burg, Podoynitsyna, Beck, Lommelen (2012)	A - 30 Perry, Wilhelm (2010)	A - 49 Lee, Lee (2010)	A - 68 Lin, Huang (2010)
A - 12 Matusik, Heeley (2005)	A - 31 Tian, Nakamori (2011)	A - 50 Choo, Schroder, Linderman (2007)	A - 69 Berman, Kim (2010)
A - 13 Marsh, Stock (2006)	A - 32 Stocker, Granitzer, Hoefler, Pammer, Willfort, Koeck, Tochtermann (2008)	A - 51 Lee, Choi (2003)	
A - 14 Quevedo, Verdu, Soriano, Ribeiro (2011)	A - 33 Andersen, Kragh (2012)	A - 52 Teerajetgul, Chareonngam, Wethyavivorn (2009)	
A - 15 Gray (2003)	A - 34 Jiang, Wang, Zhao (2012)	A - 53 Johnston, Paladino (2007)	
A - 16 Marc Abrahams (2009)	A - 35 London, Siva (2011)	A - 54 Martins, Shalley (2011)	
A - 17 DeFillipini, Grabher, Jones (2007)	A - 36 Balogun and Jenkins (2003)	A - 55 Chapin (2010)	
A - 18 Cappellin (2007)	A - 37 Fee, Gray (2003)	A - 56 Loke, Downe, Sambasivan, Khalid (2012)	
A - 19 Fliaster, Schloderer (2010)	A - 38 Huang, Tansley (2012)	A - 57 Somech, Zahavy (2005)	

4.3 – Recruitment & KM

The literature defines recruitment as the seeking and attracting process of qualified candidates for a job vacancy (Van den Brink, 2011; Almeida *et al*., 2011; Quian *et al*., 2008; Martineau *et al*., 2006). The recruitment planning phase comprehends a "job analysis, review and development of a job description, job specification and person profile for a particular vacancy, development of a competency framework and deciding on the selection criteria and methods"(Almeida *et al*., 2011).In recruitment processes, organizations´ needs in terms of knowledge are identified in Job Descriptions, for internal and external orientation, regarding the purpose of the job, what are the comprised tasks, how to perform them and in wich conditions (Colucci *et al*., 2011; Gagnon *et al*., 2010). In the healthcare industry job descriptions normally contain duties, responsabilities, accountability and licences necessary to perform the activity (Biscaia, 2006).

Some authors establish the concept of core and peripheral workers to illustrate the different level of skills, functional adaptability, high trust and more job security (Boyacigiller *et al*., 2008; Moriarty *et al*. 2013).

Many authors have highlighted the relationship between sustainable competitive advantage and the core competencies (Barnes and Liao, 2012; Waiganjo, Makulu and Kahiri, 2012; Colluci, Tinelli, Di Sciaso and Donini, 2011) of their human capital. Since most of the knowledge in organizations is embodied in employees, especially in knowledge intensive firms (e.g health sector organizations), there is a necessity to engage in recruitment and retention procedures in order to acquire and retain knowledge (Burke and Ng., 2007; Bossong, 2013; Baughn *et al*., 2011; Martin *et al*. 2011; Cong and Pandya, 2009). According to Haesli and Boxall (2005) KM activities of knowledge retention and dissemination must be aligned with human resource management strategies for recruitment and retention of employees in order to effectively diagnose the knowledge gaps and the knowledge within the organization. The use of technology (Currie, 2003; Seymour and Ledwith, 2010; Vidal *et al*. 2013) as a platform of common knowledge available in the company provides accuracy to the decision-making of top managers in deciding for develop internal assets (eg. on-the-job-training, job rotation) or for recruiting (Söderquist, 2006).

In order to assess employees performance and as part of decision-making process of top-management between "buying or making", organizations need to conduct job appraisals

or performance appraisals, which are meant to access the performance level of employees in their jobs to jointly define a set of goals and objectives to enhance their effectiveness (Liao *et al*., 2008; Knorr *et al*., 2013).

In the knowledge economy organizations must encourage employee learning to remain competitive and to make "full use of the most talented people available" (Van den Brink, 2011) as many studies in the health sector demonstrate (Dieleman *et al*., 2006; Walshe and Rundall, 2001; Biscaia, 2006; Cong and Pandya, 2003; Terra, 2005; Raymond and Woloschuk, 2010). Modern Organizations struggle with skill shortage due to the dynamic demands from the market (Standing and Chowdhury, 2008; Martineau *et al*., 2006; Moriaty *et al*., 2013; Billet *et al*., 2011; Cooke, 2013), and at the same time they need to retain their best employees in order to avoid turnover rates. In nowadays knowledge economy employee turnover is one of the major problems for companies, the research have demonstrated it´s relation with finantial losses, as well as with loss of talent, institutional memory and productivity (Bossong, 2013; Gomez *et al*. 2010; Wood and Menezes, 2008; Sayım,2010; De Winne and Sels, 2010; Ruhanen *et al*., 2011). Besides those losses there is an increased necessity for additional recruitment and training (Guchait and Cho, 2007; Schwab *et al*., 2010; Soltani, 2010; Collings and Dick, 2013). Therefore, there is a need to develop a set of human resource practices that foster organizational culture of commitment, trust and motivation to perform in order to learn, share and retain knowledge enhancing their capacity to compete in the global market (Zhou, 2012; Schwab *et al*. 2010; Waiganjo and Kahiri, 2012; Knorr *et al*.2013; Zhao, 2008; Warner, 2008; Raymond and Woloschuk, 2010). The research community also identified a connection between the reward policy, employee and knowledge retention and knowledge sharing (Sayım, 2010; Arrowsmith *et al*. 2007; Waiganjo and Kahiri, 2012; Alexopoulos *et al*. 2011; Morgan *et al*. 2011; Zhou *et al*., 2012). The use of technology in suppressing this competitive necessity of fostering KM activities of knowledge distribution and retention is crucial to render these initiatives effective (Moritary *et al*. 2013; Singh and Han, 2010; Söderquist, 2006; Mitchel *et al*., 2012; Haesli and Boxall, 2005; Schelfhaudt and Crittenden, 2005; Srinivasa, 2007; Jabbour and Santos, 2008).

Recruitment Attributes

This literature review has identified 72 attributes of Recruitment for KM present in the selected articles. The table 20 presents classification of attributes according to author. From the 88 articles that were analyzed for Recruitment, the most frequent attributes are Skills (Hard) (36) and Commitment (36), followed by Activities (33).

The less relevant attributes were "Contractors" and "Foreign" with 5 mentions, and both "Suppliers", "Internships", "Instruments" and "Volunteers" with 6 mentions each.

The authors that identify more attributes are Moriarty, Wickham, Krings, Salamonska and Bobek (2012) with 27, followed by Andresen and Biemann (2012) with 25 references, and Van den Brink (2011) with 21.

Table 20 - Recruitment Literature Attributes; Source: elaborated by the author

References Attributes Recruitment Program	SUM
Academic	16
Activities	33
Administrative Efficiency	17
Advertisements	9
Agencies	15
Applicants	11
Assess	19
Attitude	10
Attraction	11
Barriers	16
Behavior	16
Campaign	7
Candidates	18
Capabilities	23
Channels	8
Commitment	36
Competencies	15
Competent	17
Consultants	13
Contractors	5
Costs	22
Diversity	22
E-Recruitment	10
Expatriate	10
Experience	24
Experts	14
External Recruitment	14
Foreign	5
Graduates	8
Implementing	20
Incentives	14
Informal	12
Instruments	6
Intellectual Capital	8
Internal	17
Internships	6
Job Descriptions	8
Knowledge Acquisition	10
Mechanisms	13
Mentoring	9
Methods	16
Minority	10
Mobility	17
Occupations	10
On-line	15
Organizational Culture	25
Outsourcing	11
Phases	8
Policy	20
Potential	13
Pool	14
Position	12
Professional and Personal Networks	11
Profile Candidate	7
Profile Position	7
Protocol	7
Qualifications	21
Retention	21
Selection (External)	23
Selection (Internal)	13
Senior	13
Skills (Hard)	36
Skills (Soft)	8
Staffing	28
Stakeholders	16
Strategies	21
Suppliers	6
Talent	10
Teams	9
Temporary	8
Turnover	9
Volunteer	6
SUM	1019

References Recruit:				
A 1 Almeida, Fernando and Sheridan (2012)	A 20 Morgan, Barry, Donovan, Sandall, Wolfe, Boaz (2011)	A 39 Akuratiyagamage (2007)	A 58 Van den Brink (2011)	A 77 Li, Quian, Liao,Chu(2008)
A 2 Zabalza, Matey (2011)	A 21 Gomez, Travis, Lopez, Schwab (2010)	A 40 Jabbour and Santos (2008)	A 59 Colucci, Tinelli,Di Sciascio,Donini (2011)	A 78 Globerman, White,Mcdonald (2002)
A 3 Sartorius, Merino, Carmichael (2011)	A 22 Taylor, Levy, Boyacigiller, Beechler 2008	A 41 Sippola, Smale (2007)	A 60 Vidal, Hurtado, Matías (2012)	A 79 Costea, Amiridis, Crump (2012)
A 4 Baugh, Neupert, Anh, Hang (2011)	A 23 Singh, Han (2010)	A 42 Cravey,Washburn, Gesler, Arcury, Skelly (2001)	A 61 Ng and Burke (2005)	A 80 Shea (1999)
A 5 Herrera, Duncan, Green, Ree; Skaggs (2011)	A 24 Andresen and Biemann (2012)	A 43 Hsu, Sakai (2009)	A 62 Billett, Dymock, Johnson,Martin (2011)	A 81 Rivard, Russell, Roxborough, Ketelaar, Bartlett, Rosenbaum (2010)
A 6 Williams (2011)	A 25 Hoffman, Pippert (2009)	A 44 Ditewig, Blok ,Havers, van Veenendaal (2010)	A 63 Cooke (2011)	A 82 Bozzette, Posner (2013)
A 7 Bach, Bordogna (2011)	A 26 Peirson, Ciliska, Dobbins and Mowat (2012)	A 45 Ledwith, Seymour (2001)	A 64 Merry, Gagnon, Thomas (2010)	A 83 Farnesi, Newton, Holt, Sharma, Ball (2012)
A 8 Meliadou, Santoro, Nader, Dagher, Al Indary, Salloum 2012	A 27 Arrowsmith, Nicholaisen, Bechter, Nonell (2007)	A 46 Soltani (2010)	A 65 Currie (2003)	A 84 Fenwick (2005)
A 9 Stanton, Young, Bartram, Leggat 2010	A 28 Jimenez, Valle (2008)	A 47 Clegg, Gray (2002)	A 66 Young, Moule, Evans, Simmons, Crack, Mayo (2012)	A 85 Rao (2007)
A 10 Zhou, Liu, Hong (2012)	A 29 McHugh, Hogan (2011)	A 48 Tonn, Hawkings, Schweitzer, Eisenberg (2013)	A 67 Gendron (2011)	A 86 Guchait, Cho (2010)
A 11 Packer, Boldy, Ghahari, Melling, Parsons, Osborne 2012	A 30 Moriarty, Wickham, Krings, Salamonska and Bobek (2012)	A 49 Gately, Rogers and Sanders (2007)	A 68 Pan, Wang (2010)	A 87 Bryson (2013)
A 12 Liang, Xie, Cui 2010	A 31 Haesi, Boxall (2005)	A 50 Standing, Chowdhury (2008)	A 69 Waikayi, Fearon, Morris, McLaughlin (2012)	A 88 Collings, Dick (2011)
A 13 De Winne, Sels (2010)	A 32 Sayim (2010)	A 51 Jackson, Schuler (1999)	A 70 Söderquist (2006)	
A 14 Kothari, Wathen (2013)	A 33 Macvaugh, Evans (2012)	A 52 Liu, Marineau, Chen,Zhan and Tang (2006)	A 71 Zaho (2008)	
A 15 Hutchings, Metcalfe, Cooper (2010)	A 34 Schelfhaudt, Crittenden (2005)	A 53 Wood, Menezes (2008)	A 72 Thompson, Heron (2005)	
A 16 Aydinli 2010	A 35 Fields, Roman, Blum (2012)	A 54 Woloschuk, Raymond (2010)	A 73 Raeder, Knorr, Hilb (2012)	
A 17 Huang, Lin, Lin (2011)	A 36 Ng, Sears (2010)	A 55 Crawford, Nahmias (2010)	A 74 Davies (2011)	
A 18 Mitchell, Firswell, Mooren (2012)	A 37 Giesbrech,Crooks,Schuurman, Williams (2009)	A 56 Warner (2008)	A 75 Waiganjo, Mukulu, Kahiri (2012)	
A 19 Harney, Monks, Alexopoulos, Buckley, Hogan (2011)	A 38 Garcia (2010)	A 57 Ruhanen, Breakey, Robinson (2011)	A 76 Bossong (2012)	

Recruitment Practices

This literature review identified all the KM practices present in the 88 articles, in a total of 135 practices. The table 21 displays the practices per KM activity and per author. The analysis of the articles reveals that the KM practices more represented were Knowledge Development (34) and Knowledge Acquisition (33).

The authors that identified more KM practices were Almeida, Fernando and Sheridan (2012) with 4 practices; followed by Jabbour and Santos (2008), Gately, Rogers and Sanders (2007), Warner (2008), Ng, Burke (2005), Warner (2008), Liu, Marineau, Chen,Zhan and Tang (2006), Peirson, Ciliska, Dobbins and Mowat (2012) all authors with 3 practices.

Table 21 - Recruitment KM Practices in the Literature; Source: elaborated by the author

References to KM Practices	SUM
Knowledge Aquisition	33
Knowledge Development	34
Knowledge Distribution	21
Knowledge Utilization	22
Knowledge Retention	25
SUM	135

4.4. Motivation & KM

The research defined in various ways the concept motivation, stressing complementary views, all highlighting it as an active human behavior to take action over perceived needs (Park and Rainey, 2013; Marylène Gagné, 2009; Razee *et al.* 2012; Suominen *et al.* 2011). The literature distinguishes between two main types of employee motivation in organizational contexts, intrisic motivation and extrinsic motivation. The scholars define intrinsic motivation as"the motivation to perform an activity for itself" (Dysvik *et al.*, 2012), experiencing satisfaction and pride, (Hau and Kim, 2011) in performing a task, "without the involvement of external conditions" (Xiao-qing and Nan, 2010). According to the literature extrinsic motivation is "externally mediated" (Park and Rainey, 2013), employee needs are satisfied indirectly (Rabbiosi *et al.*, 2012) through reputation, recognition, autonomy (Melnik *et al.*, 2013), financial rewards and promotion (Chang *et al.*, 2013; Malhotra and Galletta, 2003; Fang and Liu, 2010). The concepts of motivation are mainly approached by the literature in relation to motivation to share knowledge with other employees (Shu and Chuang, 2011; Hau and Kim, 2011; Gagné, 2009; Rabbiosi *et al.* 2012; Chen and Hung, 2010; Esterhuizen *et al.*, 2012; Liaw *et al.*, 2008; Schoor and Bannert, 2011; Xiao-qing and Nan, 2010; Allen *et al.*, 2012; Li *et al.*, 2010), motivation to stay in an organization (Kuvaas *et al.*, 2012; Rayner *et al.*, 2011; Yamamoto, 2011; Allen *et al.*, 2012; Williams *et al.*, 2011; Singh and Winkel, 2011; Mckenzie *et al.*,2010) and motivation to perform (Razee *et al.*, 2012; Park and Rainey, 2013; Hau and Kim, 2011; Sekiguchi et. al, 2011).

In relation to KM associated with activities of Knowledge Distribution (Paswan and Wittmann, 2009; Ferlie *et al.*, 2012; Liaw *et al.* 2008; Meister and Gray, 2004; Cao and Xiang, 2012; Taylor *et al.* 2013; Chen *et al.* 2013; Congo and Pandya,2003), Knowledge Retention (Argote *et al.* 2003; Liu and Fang, 2010; Yamamoto, 2011; Baughn *et al.*, 2011; Wang *et al.*, 2013; Schaaper *et al.*, 2013; Hansen and Alewell, 2013; Gagné, 2009) and Knowledge Utilization (Sekiguchi *et al.* 2011; Marylene Gagné, 2009; Gray and Meister, 2004; Mckenzie *et al.*, 2010; Bloom and Wolcott, 2012; Melnik *et al*, 2013; Sitzmann, 2011; Lee and Jang, 2010; Shih *et al.* 2011; Khoja, 2010; Garfinkel and Hankins, 2011; Chen *et al.*, 2013; Bakker *et al.*, 2011; Anand *et al.*, 2010).

It should be noted that training was referred in several studies as one of the most important drivers of motivation to retain employees in organizations (Dieleman et. al, 2006; Congo and Pandya, 2003; Terra, 2005; Aelterman *et al.*, 2013; Reichard and

Johnson, 2011; Pérez and Diáz, 2013; Molineux, 2012; Linderman *et al*., 2004; Kumar *et al*.2012; Jabbour *et al*., 2010), particularly on intensive knowledge industries such as health care.

Motivation Attributes

This literature review has identified 51 attributes of Motivation for KM present in the selected articles. The table 22 presents classification of attributes according to author. From the 54 articles that were analyzed for Motivation, the most frequent attributes are "Create Knowledge" (40), followed by Learning Environment (37) and Behavior Proactivity (31).

The less relevant attributes were "Expectancies" and "Psychological Contract" with 5 mentions, and, "Personality Traits", "Remuneration" and "Empowerment" 6 mentions.

The authors that identify more attributes are Kuvaas, Buch, Dysvik (2012) with 34, followed by Gagné (2009) with 32 references, and Hansen and Alewell (2012) with 30.

References Attributes Motivation	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12	A13	A14	A15	A16	A17	A18	A19	A20	A21	A22	A23	A24	A25	A26	A27	A28	A29	A30	A31	A32	A33	A34	A35	A36	A37	A38	A39	A40	A41	A42	A43	A44	A45	A46	A47	A48	A49	A50	A51	A52	A53	A54	SUM
Achievment	1		1		1	1		1	1				1		1	1				1				1			1									1		1			1	1			1	1			1			1			19
Adapt to change	1	1	1								1			1						1	1			1												1	1	1					1			1									13
Adopt (Technology)							1						1	1			1			1			1		1		1	1			1	1	1				1	1	1				1	1		1									15
Attitude	1		1	1	1	1	1	1		1	1	1	1	1	1	1	1		1			1					1	1	1			1	1		1	1		1	1		1				1	1									28
Autonomy		1		1			1				1				1	1	1		1			1	1	1			1					1			1			1			1				1						1				15
Behavior Proactivity	1	1	1	1	1	1			1	1			1	1	1	1				1	1	1	1		1		1			1	1		1		1		1	1	1	1	1	1	1	1		31
Capacity	1	1	1			1					1			1		1	1	1		1	1	1	1			1		1			1	1		1	1				17
Career Development			1		1								1	1	1	1									1	1			1					10
Climate	1		1	1		1	1			1	1			1		1			1			1					1			1	1	1		1				1	21
Cognition	1		1							1			1	1			1		1			1							1	1		10
Collaboration			1	1	1	1		1		1	1	1		1		1	1	1	1	1	1		1	1	1	1	1	1	24
Commitment	1		1	1	1	1	1	1		1	1	1	1	1	1	1	1	1	1	1	1	1	25
Compensation	1		1	1	1		1	1	1	1	1	1		1	11
Competence	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	19
Comply/Cooperate	1	1	1	1	1	1	1	7
Context of the Organization	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	18
Contributors	1	1	1	1	1	1	1	1	8
Control Mechanisms	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	15
Create Knowledge	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	40
Effort in Goal Accomplishment	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	15
Empowerment	1	1	1	1	1	1	6
Engagement	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14
Expectancies	1	1	1	1	1	5
Extrinsic	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16
Formal Communication	1	1	1	1	1	1	1	1	1	1	1	11
Helping Behaviors	1	1	1	1	1	1	1	1	1	1	1	1	1	13
Incentives	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	23
Informal Communication	1	1	1	1	1	1	1	1	1	9
Interpersonal Exchange	1	1	1	1	1	1	1	1	1	1	1	1	12
Intrinsic	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16
Job Design	1	1	1	1	1	1	1	7
Job Satisfaction	1	1	1	1	1	1	1	1	1	1	1	11
Job Security	1	1	1	1	1	1	1	1	1	9
Knowledge Sharing	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	29
Learning Environment	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	37
OBC (Organizational Citizenship Behavior)	1	1	1	1	1	1	1	1	1	9
Obligation	1	1	1	1	1	1	1	1	1	9
Organizational Policies	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16
Organizational Values	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	25
Performance Appraisal	1	1	1	1	1	1	1	1	1	1	1	1	12
Persoal Growth	1	1	1	1	1	1	1	1	1	9
Personality Traits	1	1	1	1	1	1	6
Psychological Contract	1	1	1	1	1	5
Recognition	1	1	1	1	1	1	1	1	1	1	10
Relationship with Colleagues and Suppervisors	1	1	1	1	1	1	1	1	1	1	1	1	12
Remuneration	1	1	1	1	1	1	6
Rewards	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	19
Self-Efficacy	1	1	1	1	1	1	1	1	1	1	10
Supervisor Feedback	1	1	1	1	1	1	1	1	8
Supervisor Support	1	1	1	1	1	1	1	1	1	1	10
Work-Conditions	1	1	1	1	1	1	1	7
SUM	34	13	11	18	32	15	15	19	6	15	15	9	14	13	12	30	14	26	15	18	6	8	7	8	11	8	17	19	10	7	10	26	18	14	9	21	14	15	23	7	5	22	14	1	17	14	20	6	7	8	7	10	11	8	752

Table 22 - Motivation Literature Attributes; Source: elaborated by the author

References Motivation:		
A 1 Kuvaas, Buch, Dysvik (2012)	A 20 Paswan, Wittmann (2009)	A 39 Lee, Jang (2010)
A 2 Gray, Meister (2004)	A 21 Garfinkel, Hankins (2010)	A 40 Liaw, Chen, Huang (2008)
A 3 Sitzmann (2011)	A 22 Choudhary, Harding, Lin, Tiwari, Shankar (2011)	A 41 Pierce, Aguinis (2013)
A 4 Singh, Winkel (2012)	A 23 Seba, Rowley, Lambert (2012)	A 42 Toode, Routasalo, Pirkko, Suominen (2011)
A 5 Gagné (2009)	A 24 Matzler, Muller (2008)	A 43 Cao, Xiang (2013)
A 6 Khoja (2010)	A 25 Ming Li, Jhang Li (2010)	A 44 Ferlie, Crilly, Jashapara, Peckham (2012)
A 7 McKenzie, Truc, Winkelen (2010)	A 26 Sekiguchi, Bebenroth, Li (2011)	A 45 Allen, Hyde and Leslie (2012)
A 8 Williams, Rayner, Allinson (2011)	A 27 Xiao-Quing, Nan (2010)	A 46 Schoor, Bannert (2011)
A 9 Shang , Li, Wu, Hou (2011)	A 28 Minbaeva, Makela, Rabbiosi (2012)	A 47 Chang, Yen, Chiang, Parolia (2013)
A 10 Melnik, Petrella, Battesti (2012)	A 29 Argote, McEvily, Reagens (2003)	A 48 Baughn, Neupert, Anh, Hang (2011)
A 11 Shih, Chiang, Chen (2012)	A 30 Bakker, Cambré, Korlaar and Raab (2011)	A 49 Liawa, Chen, Huang (2008)
A 12 Chu, Chuang (2012)	A 31 Hiscock (2004)	A 50 Esterhuizena, Schuttea, du Toit (2012)
A 13 Martin, Sass (2011)	A 32 Chen, Hung (2010)	A 51 Malhotra, Galleta (2003)
A 14 Whan (2011)	A 33 Hau, Kim (2011)	A 52 Park, Rainey (2012)
A 15 Bloom, Wolcott (2012)	A 34 Liu, Fang (2010)	A 53 - Li, Li (2010)
A 16 Hansen and Alewell (2012)	A 35 Lin, Harding, Tsai, Taylor (2011)	A 54 - Shu, Chuang (2011)
A 17 Kane (2010)	A 36 Razee, Whittake, Jayasuriya, Yap, Brentnall (2012)	
A 18 Wang, Tseng, Yen (2012)	A 37 Yamamoto (2011)	
A 19 Chen, Shih, Yeh (2011)	A 38 Schaaper, Amann, Jaussaud, Nakamura, Mizoguchi (2012)	

Motivation Practices

This literature review identified all the KM practices present in the 54 articles regarding Motivation, in a total of 85 practices. The table 23 displays the practices per KM activity and per author.

The analysis of the articles reveals that the KM practices more represented were Knowledge Distribution 31 and Knowledge Utilization 16.

The authors that identified more KM practices were Bakker, Cambré, Korlaar and Raab (2011), and Allen, Hyde and Leslie (2012) with 4 practices, followed by Cao, Xiang (2013), Chen, Hung (2010), Argote, McEvily and Reagens (2003), Paswan, Wittmann (2009), Hansen and Alewell (2012) and Kane (2010) with 3 identified practices.

Table 23 - Motivation KM Practices in the Literature; Source: elaborated by the author

References to KM Practices	A 1	A 2	A 3	A 4	A 5	A 6	A 7	A 8	A 9	A 10	A 11	A 12	A 13	A 14	A 15	A 16	A 17	A 18	A 19	A 20	A 21	A 22	A 23	A 24	A 25	A 26	A 27	A 28	A 29	A 30	A 31	A 32	A 33	A 34	A 35	A 36	A 37	A 38	A 39	A 40	A 41	A 42	A 43	A 44	A 45	A 46	A 47	A 48	A 49	A 50	A 51	A 52	A 53	A 54	SUM
Knowledge Aquisition		1		1				1				1								1					1				1	1		1													1			1	1			1	1		14
Knowledge Development									1							1								1					1	1			1						1					1	1	1									10
Knowledge Distribution				1	1	1				1	1					1	1			1		1	1	1	1	1	1	1	1	1		1		1	1			1	1				1	1	1	1	1	1	1	1	1				31
Knowledge Utilization													1	1	1	1	1		1		1		1					1		1		1								1		1	1		1									1	16
Knowledge Retention	1		1				1							1	1		1	1		1											1					1	1				1		1									1			14
SUM	1	1	1	2	1	1	1	1	1	1	1	1	1	2	2	3	3	1	1	3	1	1	2	2	2	1	1	2	3	4	1	3	1	1	1	1	1	1	2	1	1	1	3	2	4	2	1	2	2	1	1	2	1	1	85

References Motivation:		
A 1 Kuvaas, Buch, Dysvik (2012)	A 20 Paswan, Wittmann (2009)	A 39 Lee, Jang (2010)
A 2 Gray, Meister (2004)	A 21 Garfinkel, Hankins (2010)	A 40 Liaw, Chen, Huang (2008)
A 3 Sitzmann (2011)	A 22 Choudhary, Harding, Lin, Tiwari, Shankar (2011)	A 41 Pierce, Aguinis (2013)
A 4 Singh, Winkel (2012)	A 23 Seba, Rowley,Lambert (2012)	A 42 Toode, Routasalo, Pirkko, Suominen (2011)
A 5 Gagné (2009)	A 24 Matzler, Muller (2008)	A 43 Cao, Xiang (2013)
A 6 Khoja (2010)	A 25 Ming Li, Jhang Li (2010)	A 44 Ferlie, Crilly, Jashapara, Peckham (2012)
A 7 McKenzie, Truc, Winkelen (2010)	A 26 Sekiguchi, Bebenroth, Li (2011)	A 45 Allen,Hyde and Leslie (2012)
A 8 Williams, Rayner, Allinson (2011)	A 27 Xiao-Quing, Nan (2010)	A 46 Schoor,Bannert (2011)
A 9 Shang , Li, Wu, Hou (2011)	A 28 Minbaeva, Makela, Rabbiosi (2012)	A 47 Chang, Yen, Chiang, Parolia (2013)
A 10 Melnik,Petrella, Battesti (2012)	A 29 Argote, McEvily, Reagens (2003)	A 48 Baughn, Neupert, Anh, Hang (2011)
A 11 Shih, Chiang, Chen (2012)	A 30 Bakker, Cambré, Korlaar and Raab (2011)	A 49 Liawa, Chen, Huang (2008)
A 12 Chu, Chuang (2012)	A 31 Hiscock (2004)	A 50 Esterhuizena, Schuttea, du Toit (2012)
A 13 Martin, Sass (2011)	A 32 Chen, Hung (2010)	A 51 Malhotra, Galleta (2003)
A 14 Whan (2011)	A 33 Hau, Kim (2011)	A 52 Park, Rainey (2012)
A 15 Bloom, Wolcott (2012)	A 34 Liu, Fang (2010)	A 53 - Li, Li (2010)
A 16 Hansen and Alewell (2012)	A 35 Lin, Harding, Tsai, Taylor (2011)	A 54 - Shu, Chuang (2011)
A 17 Kane (2010)	A 36 Razee, Whittake, Jayasuriya, Yap, Brentnall (2012)	
A 18 Wang, Tseng, Yen (2012)	A 37 Yamamoto (2011)	
A 19 Chen, Shih, Yeh (2011)	A 38 Schaaper, Amann, Jaussaud, Nakamura, Mizoguchi (2012)	

New Ideas Generation & KM

The broad concept of new ideas generation is defined as "incomplete concepts requiring feedback from agents with complementary expertise" (Hellmann, 2004). This definition is intrinsically related to the capacity that organizations have to innovate and consequently to attain a competitive advantage (Wright *et al*., 2012; Varman and Chakrabarti, 2011; Weidenfeld *et al*., 2010; Hirunyawipada *et al*., 2010; Land *et al*., 2012).

The concept of new ideas generation is most commonly mentioned in relation to environmental management practices and policies that embrace the adoption of new ideas (Uhlaner *et al*., 2011; Peer and Stoeglehner, 2013; Adomßent, 2013; Wright *et al*., 2012; Kamoche *et al*., 2012; Davies and White, 2012; Chau et. al, 2013; Paraskevas *et al*., 2013; Seyfang and Longhurst, 2013; Avlonitis and Panagopoulos, 2010; Berta *et al*. 2010).

The concept of new ideas generation is most commonly mentioned in relation to new product development and services (Barczak and Kahn, 2012; Hirunyawipada *et al*., 2010; Durmuşoğlu and Barczak, 2011; Hoegl and Schulze, 2005; Helene *et al*., 2012; Wang *et al*., 2010; Varman and Chakrabarti, 2011; Fagerberg *et al*., 2012) and knowledge dissemination within employees of an organization (Raymond *et al*, 2010; Yang, 2005; Chen and Chen, 2010; Navarro *et al*., 2010; Schwilch *et al*., 2012; Haugland *et al*., 2011).

Regarding KM activities the most commonly associated with this concept are Knowlegde Creation (Yakhlef, 2010; Chang and Tzeng, 2010; Lamb and Sutherland, 2010; Wang *et al*., 2010; Sluyts *et al*., 2011), Knowledge Distribution (Kornish and Ulrich, 2010; Yang, 2005; Durmuşoğlu and Barczak, 2011; Hoegl and Schulze, 2010; Weinerger *et al*., 2013; Boehm and Hogan, 2013) and Knowledge Retention (Hellmann, 2004; Boehm and Hogan, 2013; Berta *et al*, 2010; Scullion *et al*., 2013; Taylor *et al*., 2011).

The literature also mentions that new ideas come from already existing knowledge in organizations (Verma *et al*., 2011; Raymond *et al*., 2010; Hoegl and Schulze, 2005; Yakhlef, 2010; Paraskevas *et al*., 2013; Iles *et al*., 2010) highlighting organizational learning (Chen and Chen, 2010; Land *et al*., 2012; Malik *et al*. 2012) and team work (Hirunyawipada *et al*., 2010; Land *et al*., 2012; Barczak and Kahn 2012; Kamoche *et al*., 2012;) as relevant to the generation of new ideas.

New Ideas Generation Attributes

This literature review has identified 93 attributes of New Ideas Generation for KM present in the selected articles. The table 24 presents classification of attributes according to author. From the 69 articles that were analyzed for New Ideas Generation, the most frequent attributes are Adoption of New Ideas (46), followed by Exploration , Idea Economic Value, Knowledge Tools, Kowledge Tools, Partnerships and Alliances, Service and Product Improvement all with 29 mentions. The less relevant attributes were "Non-Linear Thinking" with 4 mentions; "Tacit Conversion" 4 mentions. The authors that identifies more attributes are Yang (2005) with 49, followed by Hirunyawipada, Beyerlein, Blankson (2010), Anand, Ward, Tatikonda (2010) 42 references, succeeded by Hoegl, Schulze (2005); Huber (2013), all with 36 references.

Table 24 – New Ideas Generation Literature Attributes; Source: elaborated by the author

References Attributes	SUM
Absorptive Capacity	17
Adapt to Market Demands	9
Adoption of New Ideas	46
Advice	15
Autonomy	13
Benchmarking	13
Brainstorming	7
Change Management	14
Circulation of Ideas	15
Clusters of Ideas	12
Cognitive Characteristics	8
Collaboration between Organizations	22
Collaboration between Team Members	15
Collection of Ideas	9
Combination of Ideas and Recombination	23
Communicate Clearly an Idea	22
Communication Channels Efficacy	15
Communities of Practice	10
Competence Acquisition	10
Competing (Internal)	9
Concept Development	15
Context Specific Factors from the Firm	21
Conversion of Knowledge fromTacit to Explicit and Explicit to Tacit	23
Convey Complex Ideas	6
Core Competence Strenghtning	8
Creative problem-solving/techniques	15
Customer Capital	16
Disseminate Knowledge Troughout the Company	15
Dynamic Capabilities	14
Encountering New Situations	12
Entrepreneurship	21
Environment Uncertainty	15
Exchange Experiences	23
Experimentation Fostering	8
Explicit Knowledge Conversion	17
Exploitation	24
Exploration	29
Externalization	7
Flexibility of Processes	26
Idea Economic Value	29
Idea Portfolio	12
Idea/Knowledge Repository	14
Improve Structures and Systems	18
Informal Communication	13
Innovation Capability	13
Innovation Policy	19
Innovation Strategy	25
Intangible Assets	20
Integrate Expertise and Knowledge	25
Interdisciplinarity	13
Internalization	11
Joint Ventures	11
Knowledge Conversion	6
Knowledge Re-Utilization/Re-Use	11
Knowledge Tools	29
Knowledge Utilization Capacity	14
Lessons Learned	17
Market Orientation	11
Market Trends	16
Multiple Sources	9
Networking	17
New Product Development	20
New Projects	11
Non-Linear Thinking	4
NPD (New Product Development) Teams	17
Open Nature of the Systems	13
Partnerships and Alliances	29
Patentiation	16
Physical Infrastructure	11
Presentations to Colleagues	5
Product Innovation Capability	20
Professional Development	13
R&D	23
Receptiveness to New Ideas	6
Record Good Ideas	9
Relational Skills	13
Risk Taking	25
Service and Product Improvement	29
Service Innovation Capability	11
Shared Decision Making	12
Shorten New Product Time Cycle Production	24
Single Loop and Double Loop Learning	11
Social Capital	18
Socialization	13
Stakeholder Involvement	7
Success Formulas/Recepies	8
Sustainable Competitive Advantage	21
Tacit Conversion	5
Team Diversity	6
Team Shared Mindset/Values	16
Translate Knowledge	15
Uniqueness of Factors Combination in the Organization	14
Workshops	8

Column totals (A1–A69): 17, 18, 24, 34, 42, 13, 16, 18, 42, 22, 1, 33, 23, 21, 16, 19, 10, 49, 15, 18, 4, 31, 36, 14, 16, 15, 35, 18, 14, 25, 24, 18, 16, 36, 34, 20, 22, 32, 6, 21, 19, 12, 11, 13, 22, 26, 16, 19, 15, 20, 15, 42, 14, 11, 10, 14, 13, 14, 11, 29, 17, 14, 33, 31, 22, 16, 26, 13 — SUM: 142

New Ideas Generation Practices

This literature review identified all the KM practices present in the 69 articles regarding New Ideas Generation, in a total of 129 practices. The table 25 displays the practices per KM activity and per author.

The analysis of the articles reveals that the KM practices more represented were Knowledge Development 43 and Knowledge Distribution 38.

The authors that identified more KM practices were Phelps, Heidl, Wadhwa (2011), Yang (2005), Aschehoug, Boks, Støren (2012) and Sher and Lee (2004) with 4 identified practices, followed by Iles, Chuai and Preece (2010), Navarro, Dewhurst and Eldrige (2010); Yakhlef (2010); Anand, Ward and Tatikonda (2010); Durmuşoğlu, Barczak (2011); Adomßent (2012); Huber (2013); Chen and Chen (2010); Verma, Mishra and Sinha (2011); Paraskevas, Altinay, McLean and Cooper (2013); Chau, Moghimi and Popovic (2013); Varman and Chakrabarti (2011) wich identified 3 practices.

Table 25 – New Ideas Generation KM Practices in the Literature; Source: elaborated by the author

References to KM Practices	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12	A13	A14	A15	A16	A17	A18	A19	A20	A21	A22	A23	A24	A25	A26	A27	A28	A29	A30	A31	A32	A33	A34	A35	A36	A37	A38	A39	A40	A41	A42	A43	A44	A45	A46	A47	A48	A49	A50	A51	A52	A53	A54	A55	A56	A57	A58	A59	A60	A61	A62	A63	A64	A65	A66	A67	A68	A69	SUM
Knowledge Aquisition			1										1				1					1			1																1																					1									7
Knowledge Development	1	1	1			1		1	1	1	1	1		1		1		1		1		1	1	1			1		1		1	1	1		1		1	1	1	1		1		1	1		1	1		1	1		1		1	1	1		1			1	1	1	1		1	1	1	44
Knowledge Distribution	1	1	1	1	1			1	1		1		1	1		1			1	1		1		1	1		1			1	1	1			1		1	1		1				1	1		1	1		1	1				1		1		1		1	1	1		1	1	1	38
Knowledge Utilization		1	1	1	1	1	1	1		1		1			1	1	1		1	1	1		1		1			1	1	1	1	1		1		1		1		1			1	1	1		1	1	1		1		1			1	1	1	1	33
Knowledge Retention				1	1		1																																1																								1				1	7
SUM	2	3	4	3	3	2	2	3	2	2	2	3	1	1	1	1	4	1	1	1	2	3	2	2	2	1	1	1	1	1	2	2	2	1	2	1	2	3	4	1	1	2	1	1	2	1	3	1	1	2	2	3	1	1	1	2	3	2	3	2	4	2	129

References New Ideias Generation:			
A 1 Zhao (2010)	A 20 Jabbour, Santos, Nagano (2010)	A 39 Reich, Gemino, Sauer (2012)	A 58 Spilg, Siebert, Martin (2012)
A 2 Varman, Chakrabarti (2011)	A 21 Garavan (2012)	A 40 Adomßent (2012)	A 59 Yakhlef (2010)
A 3 Phelps, Heidl, Wadhwa (2011)	A 22 Reichard, Johnson (2011)	A 41 Aschehoug, Boks, Støren (2012)	A 60 Aelterman, Vansteenkiste, Keer, Meyer, Berghe, Haerens (2010)
A 4 Chau, Moghimi, Popovic (2013)	A 23 Huber (2013)	A 42 Taylor, Yates, Meyer, Kinsella (2011)	A 61 Weidenfeld, Williams, Butler (2013)
A 5 Paraskevas, Altinay, McLean, Cooper (2013)	A 24 Hellmann, Perotti (2004)	A 43 Kim, Zheng, Gupta (2011)	A 62 Kamoche, Chizema, Mellahi, Kahindi (2012)
A 6 Allen, Gunderson (2011)	A 25 Gaillard, Mercer (2012)	A 44 Noroozi, Weinberger, Biemans, Mulder, Chizari (2013)	A 63 Peer, Stoeglehner (2013)
A 7 Skuza, Scullion, McDonnell (2012)	A 26 Wang, Jha, Gong, Hou, Chiu (2009)	A 45 Mader (2012)	A 64 Navarro, Dewhurst, Eldrige (2010)
A 8 Verma, Mishra, Sinha (2011)	A 27 Wright, Sturdy, Wylie (2012)	A 46 Barczak, Kahn (2012)	A 65 Sluyts, Matthyssens, Martens, Streukens (2011)
A 9 Hirunyawipada, Beyerlein, Blankson (2010)	A 28 Schwilch, Bachmann, Valente, Coelho, Moreira, Laouina, Chaker, aderghal, Santos, Reed (2012)	A 47 Malik, Sinha, Blumenfeld (2012)	A 66 Iles, Chuai, Preece (2010)
A 10 Molineux (2012)	A 29 Brattström, Löfsten, Richtnér (2012)	A 48 Durmuşoğlu, Barczak (2011)	A 67 Zhang, Zhou (2013)
A 11 Muñoz, Muñoz (2006)	A 30 Pérez, Diáz (2010)	A 49 Linderman, Schroeder, Zaheer, Liedtke, Choo (2004)	A 68 Sher, Lee (2004)
A 12 Johannessen, Olsen, Olaisen (1999)	A 31 Davies, White (2012)	A 50 Raymond, Fazey, Reed, Stringer, Robinson, Evely (2010)	A 69 Boehm, Hogan (2013)
A 13 Chen, Chen (2010)	A 32 Lamb, Sutherland (2010)	A 51 Seyfang, Longhurst (2013)	
A 14 Cooke, Macau, Wood Jr. (2012)	A 33 Uhlaner, Braun, Jeurissen, Wit (2012)	A 52 Campos, Norman, Jadad (2011)	
A 15 Wang, Chu (2010)	A 34 Hoegl, Schulze (2005)	A 53 Anand, Ward, Tatikonda (2010)	
A 16 Land, Engelen, Brettel (2012)	A 35 Kim, Kumar, Kumar (2012)	A 54 Naudé (2011)	
A 17 Berta, Teare, Gilbert, Ginsburg, Charles, Davis, Rappolt (2010)	A 36 Fagerberg, Landström, Martin (2012)	A 55 Asquin, Garel, Picq (2010)	
A 18 Yang (2005)	A 37 Haugland, Grønseth, Aarstad (2010)	A 56 Avlonitis, Panagopoulos (2010)	
A 19 Chang, Tzeng (2010)	A 38 Hogan, Soutar, Kennedy, Sweeney (2011)	A 57 Kornish, Ulrich (2011)	

4.6 - Employee Competence & KM

The concept of employee competence is defined in the literature as a bundle of knowledge, skills and attitudes which are necessary to perform a role (Hertlein and Smolnik, 2012; Humaidi *et al.*, 2010; Prieto *et al.*, 2010; Crawford, 2005; Jolink and Dankbaar, 2010).

There are two main approaches (Hertlein and Smolnik, 2012) to the concept of competence, the competency model, or attribute based competency approach (Tissen, 2013; Bhamra *et al.*, 2010); and the competency standards, or demonstrable performance approach (Huang and Chen, 2009; Marques *et al.*, 2011).

The scientific literature on employee competence is centered on assessing competence level (Cepeda and Vera, 2007; Humaidi *et al.*, 2010; Sung and Choi, 2012; Marques *et al.*, 2011), on knowledge utilization (Bellmunt *et al.*, 2011; Jolnik and Dankbaar, 2010; Taylor *et al.*, 2013; Hwang and Ng., 2013; Gardner *et al.*, 2010) and on competence development (Hertlein and Smolnik, 2012; König *et al.*, 2013; Havila and Medlin, 2012; Bhamra *et al.*, 2010).

Regarding knowledge management activities the concept of employee competence is mostly related to knowledge creation (Formentini and Romano, 2011; Menguc *et al.*, 2012; Yun *et al.*, 2012; Hao-yun *et al.*, 2010), knowledge distribution (Liu *et al.*, 2011; Kang *et al.*, 2005) and knowledge retention (Sedera and Gable, 2010; Camisón and Forés, 2010).

Some authors argue that the competences needed for high performance are rare, valuable and inimitable because they are crucial for obtaining a sustainable competitive advantage (Taylor *et al.*, 2013; Bhamra *et al.*, 2010; Khatri et al., 2010).

Employee Competence Attributes

This literature review has identified 79 attributes of Employee Competence for KM present in the selected articles. The table 26 presents classification of attributes according to author. From the 55 articles that were analyzed for Level of Employee Competence, the most frequent attributes are Competence Transfer with 36 mentions, External Competence with 35 mentions, Competitive Advantage with 34 mentions, followed by Core Competence with 33 mentions.

The less relevant attributes were "Competence Profiles" and " High-Performance" both with 5 mentions; Relationship Marketing Competence and Embodied Competences both with 4 mentions, and Retain Competence mentioned 3.

The authors that have identified more attributes are Camisón, Forés (2010) with 44, followed by Formentini, Romano (2011) 43, and Jolink, Dankbaar (2010)   36 and Liu, Liu (2011) 36 references.

References to Level of Employees´ Competence	SUM
Accumulate Knowledge	17
Achievement Orientation	13
Activity Performace	25
Administrative Efficiency	14
Awareness of Innovation	18
Based Performance Incentives	13
Building Competencies	22
Classification of Competences	14
Close Knowledge Gap	21
Collective Skills	23
Combination (IT and Abilities)	15
Combination of Individual/Group Competences	8
Competence Acquisition	22
Competence Experience	29
Competence Gaps	9
Competence Integration	15
Competence Management	11
Competence Measurement	17
Competence Gain	6
Competence Profiles	5
Competence Scarcity/Shortage	8
Competence Transfer	36
Competitive Advantage	34
Complexity of Competence	13
Coordination Capability	17
Core Capability	20
Core Competence	33
Create New Competences	18
Critical Competence	16
Customer Knowledge Competence	11
Customer Satisfaction	9
Decision-Making Competence	25
Developing Competences	14
Diagnose Competence/Mapping	9
Distinctive Competencies	6
Dynamic (Knowledge System)	15
Embodied Competences	4
Employee Competences	17
Employees Attitudes	15
Encourage Inter-firm Knowledge Share	9
Enhance Competence	20
Evaluate Competence	8
External Competence	35
Firm Capability	16
Firm-Specific Comepetence	22
Group Competences/Skills	18
Hard Imitation/Inimitability	9
High-Performance	5
Innovation Capability	9
Integrate Capabilities	18
Internal Competence	17
Interpersonal/relational Competence	6
Learning New Competences	15
Managerial Competence	7
Market Knowledge Competence	13
Merit	6
Pay for Performance	12
Peer Support/Appraisal	7
Performance Antecedents	23
Performance Appraisals	6
Performance Driven Strategy	6
Performance Management	10
Performance Measurement	10
Problem Solving Competence	16
Project Management Competence	15
Reconfigure/Renew Competences	7
Relationship Marketing Competence	4
Response Capability	9
Retain Competence	3
Skill Assessment	25
Skill Market Value	13
Skill Utilization	17
Specialised/Specific Competence	10
Strategic Competence	20
Supply Chain Management Competence	11
Technical Competence	13
Training Competence	26
Transferable Competence/Knowledge Transfer	14
Work Experience	13
SUM	**1164**

Column totals (A1–A55): 28, 20, 11, 18, 27, 34, 34, 36, 27, 24, 36, 6, 16, 4, 21, 14, 7, 25, 3, 5, 21, 34, 23, 17, 4, 23, 34, 19, 29, 8, 20, 22, 17, 43, 35, 16, 5, 14, 17, 24, 22, 30, 18, 35, 26, 29, 9, 20, 26, 44, 26, 24, 13, 17, 4

References Level of Employee Competence:		
A 1 Sedera and Gable (2010)	A 20 Havila, Medlin (2012)	A 39 Arnett, Badrinarayanan (2005)
A 2 Jia (2010)	A 21 Tissen, Deprez, Burgers, Montfort (2010)	A 40 Biron, Farndale, Paauwe (2011)
A 3 Sordi, Azevedo (2008)	A 22 König, Diehl, Tscherning and Helming (2013)	A 41 Pillai, Min (2010)
A 4 Ling (2011)	A 23 Hao-yu, Yun, Yun-feng and Xing, Bei (2010)	A 42 Bhamra, Dani, Bhamra (2010)
A 5 Hertlein, Smolnik (2012)	A 24 Holoien, Fiske (2013)	A 43 FitzPatrick, Davey, Muller, Davey (2013)
A 6 Yang (2010)	A 25 Powell, Swart (2010)	A 44 Massingham (2010)
A 7 Cepeda, Vera (2007)	A 26 Khatri, Baveja, Agrawal, Brown (2010)	A 45 Mengue, Auh, Uslu (2013)
A 8 Jolink, Dankbaar (2010)	A 27 Xiang, Xu (2009)	A 46 Sung, Choi (2012)
A 9 Petroni, Venturini, Verbano (2011)	A 28 Kylaheiko, Jantunen, Puumalainen, Luukka (2011)	A 47 Crawford (2005)
A 10 Campbell (2003)	A 29 Yu, Yan-fei, Hai-Lin	A 48 Henriksen, Rolstadås (2009)
A 11 Liu, Liu (2011)	A 30 Kamoche, Kahindi (2012)	A 49 Barnes, Liao (2012)
A 12 Hsu, Tan, Laosirihongthong, Leong (2011)	A 31 Schwaer, Biemann, Voelpel (2012)	A 50 Camisón, Forés (2010)
A 13 Gardner, Pransky, Shaw, Hong, Loisels (2010)	A 32 Bellmunt, Fernandez, Vicedo (2011)	A 51 Hwang, Ng (2013)
A 14 Yongquan, Chunhua (2010)	A 33 Taylor, Cheng, Tsai (2011)	A 52 Lakanmaa, Suominen, Perttilä, Puukka, Kilpi (2012)
A 15 Rossem, Veen (2011)	A 34 Formentini, Romano (2011)	A 53 Lee, Lee, Kang (2005)
A 16 Pastor, Santana, Sierra (2010)	A 35 Chen, Wang, Ye (2010)	A 54 Lee, Tsai, Amjadi (2011)
A 17 Chen, Huang (2007)	A 36 Peñalvo, Palacios, Lytras (2012)	A 55 Prieto, Pérez, Sierra (2010)
A 18 Henriksen (2001)	A 37 Paraskevas, Altinay (2013)	
A 19 Humaidi, Anuar, Said (2010)	A 38 Marques, Gourc, Lauras (2010)	

Employee Competence Practices

This literature review identified all the KM practices present in the 55 articles regarding Level of Employee Competence, in a total of 133 practices. The table 27 displays the practices per KM activity and per author.

Table 27 – Employee Competence KM Practices in the Literature; Source: elaborated by the author

References to KM Practices	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12	A13	A14	A15	A16	A17	A18	A19	A20	A21	A22	A23	A24	A25	A26	A27	A28	A29	A30	A31	A32	A33	A34	A35	A36	A37	A38	A39	A40	A41	A42	A43	A44	A45	A46	A47	A48	A49	A50	A51	A52	A53	A54	A55	SUM
Knowledge Aquisition	1		1									1						1				1	1							1								1												1	1					10
Knowledge Development	1	1	1	1	1	1	1		1	1	1		1	1		1	1	1		1	1	1	1	1		1	1	1	1	1	1	1	1	1	1		1	1	1		1	1		1	1	1			1	1	1	1	1	1	1	45
Knowledge Distribution	1				1		1	1		1				1				1				1	1				1			1	1	1				1	1				1	1	1		1	1	1		1	1				1	1	25
Knowledge Utilization	1	1		1	1	1	1		1	1		1	1	1	1		1		1	1		1	1				1	1			1		1	1		1	1		1		1	1	1	1	1		1	1		1	1	1	1		1	37
Knowledge Retention	1	1					1						1	1	1			1									1		1	1						1		1											1		1			1	1	16
SUM	5	3	1	3	2	3	3	1	3	2	2	3	2	3	1	2	3	2	2	2	1	4	4	1	1	1	3	2	3	3	3	2	2	2	2	3	1	2	2	3	2	3	2	2	2	3	2	1	5	4	3	2	3	3	3	133

Employee Competence KM Practices

The analysis of the articles reveals that the KM practices more represented were Knowledge Development 45 and Knowledge Utilization 38.

The authors that identified more KM practices (5) were Camisón and Forés (2010) and Sedera and Gable (2010). Followed by König, Diehl, Tscherning and Helming (2013); Hao-yu, Yun, Yun-feng and Xing and Bei (2010) and Hwang and Ng (2013) whith 4 practices identified.

Chapter III – Analysis of Knowledge Management and Human Capital Management Paradigms

3.1 – Introduction

In this chapter it is made an analysis of the set of definitions, practices and attributes of the paradigms of Leadership Index, Creativity, Recruitment Program Comprehensive, Motivation Index, New Ideas Generation and Level of Employees' Competence in Knowledge Management, that were identified in chapter 2 aiming at selecting the characteristics of the paradigms and how they relate with each other.

Firstly, there will be analyzed the definitions of Leadership, Creativity, Recruitment, Motivation Index, New Ideas Generation and Level of Employees' Competence, with emphasis in the complementarities and differences found, with the objective of proposing a new definition. Following, there will be analyzed the attributes and practices considered as more relevant by health care professionals regarding the implementation of the paradigms in hospitals and private clinics.

The above mentioned analytical steps will contribute for the development of a framework that will be presented in chapter 4, which establishes the link between the paradigms of Leadership Index, Creativity, Recruitment Program Comprehensive, Motivation Index, New Ideas Generation and Level of Employees' Competence in Knowledge Management.

3.2 - Definition of Leadership

In chapter 2 several definitions of Leadership were presented, namely according to the relationally focused leadership and task focused perspective, within this two categories a

total of ten theories of leadership were found, with sub differences within them. Though there is a relevant number of characteristics that are common among them. One of the most recurring characteristics is to provide the necessary support to followers´ performance towards a common good.

The role of leaders in organizations has been changing in the last decades, in part due to the increasing use of technology and dynamic market demands, which must be addressed by a well managed and well developed human capital. The most well succeeded organizations trust in their leaders to be able to orchestrate and distribute assignments to an efficient and motivated workforce, supervising the use of knowledge in order to deliver the highest value to stakeholders. In order to do so leaders and organizations must be capable of maintaining a pool of motivated high performance knowledge workers.

According to Hernandez, Eberly, Avolio, Johnson (2011), Zhang, Jia, Gu (2012), Zhang, Jia, Gu (2012) , Morgeson, DeRue, Karam (2010) and Rosing, Frese, Bausch (2011) an effective leader motivates followers to engage in indicated processes to reach organizational outcomes and to achieve personal and organizational goals. Besides motivation, there are also other attributes that are associated with the definition of leadership, such as transformational, formal and informal leadership (depicted in the table below), follower encouragement.

Table – 28: The main Leadership Theories according to relational and task focus

		Formality of Leadership	
		Formal	Informal
Locus of Leadership	Internal	Team leader Project manager	Shared Emergent
	External	Sponsor Coach Team advisor	Mentor Champion Executive Coordinator

Source: Table 1; Sources of Leadership in Teams; Morgeson et al. 2009, p.9

The most relevant definitions of Leadership previously analyzed in Chapter 2, and the characteristics of the paradigms of leadership have based the following proposed definition: Leadership is the capability of influencing key human and organizational

variables in the accomplishment of a given task in the most effective way in any given market dynamic situation in order to deliver value to a third partie.

3.3 - Definition of Creativity

Nowadays brisk market changes and challenging demands compel organizations to present new and effective solutions to their stakeholders, therefore organizations have to rely on their employees' capacity to be creative and developed in order to maintain a sustainable competitive advantage (Coelho, Augusto and Lages; 2011). It is crucial that organizations are able to implement processes that enable employees to unleash their creativity potential in order to innovate as an whole, while increasing the knowledge base of the organization.

The role of organizational learning, of communities of practice, of KM and of technology have become essential for organizations to enhance their creativity and innovation capability.

Despite creativity is more related to the individual level and, according to Sung, Choi (2012), Phipps, Prieto (2012), Jiang, Wang, Zhao (2012), Yeh, Yeh, Chen (2012), Dillielo, Houghton, Dawley (2011) prior experiences held by members of the organization or group members have a great impact on the on collective awareness that precedes knowledge utilization, fostering as well group learning and new thinking processes.

The literature focuses other attributes that are part of the definition of creativity, namely innovation, novelty, performative and organizational environment.

The most relevant definitions of Motivation on the literature that were analyzed previously in Chapter 2, and the characteristics of the paradigms of Motivation have based the following proposed definition: Creativity is the knowledge recombination capability of generating a context-specific subjective judgment of the novelty and value about practices, procedures, products, and/or services for an organization.

3.4 - Definition of Recruitment

With the rise of the concept of human capital, modern organizations started to face an increasing necessity of suppressing knowledge gaps in order to meet the market´s dynamic on a short to medium time span, occasionally resorting to outsourcing or to knowledge alliances. The global market has made organizations start to attract foreign

talent, having a much diverse pool of human capital (Ng. and Burke, 2005). Conversely, organizations also started to develop their employees and their knowledge base in a more permanent fashion and simultaneously to promote internal recruitment as a mean to circulate knowledge in the organization, develop it and promote employee retention, adopting a comprehensive approach to recruitment.

The knowledge economy characterized by an highly competitive global market lead organizations to develop a set of processes, in which KM is crucial, in order to foster employee commitment and development, being the recruitment program one of the most effective knowledge acquisition procedures that organizations carry out. The definition of Recruitment Program is not clearly and efficiently made in the literature since there are very few definitions of it, being the focus of the definitions of recruiting in job description, which is defined as a description of the function within the organization, most relevant tasks, objectives and needed skills (Almeida, Fernando and Sheridan, 2011; Li, Qian, Liao and Chu, 2008). From the definitions of recruitment in the literature the most relevant is: "the process of seeking and attracting a pool of qualified candidates for a job vacancy" (Li, Qian, Liao and Chu, 2008).

The literature focuses other attributes that are part of the definition of recruitment comprehensive program, specifically Commitment, Skills (Hard) and Organizational Culture.

The most relevant definitions of Recruitment on the literature that were analyzed previously in Chapter 2, and the characteristics of the paradigms of Recruitment have based the following proposed definition: Recruitment Program Compreheensive is the organizational capability of suppress and anticipate knowledge gaps making the most efficient use of the available resources.

3.5 - Definition of Motivation

As previously analyzed in chapter 2, the literature establishes two distinct forms of motivation, the intrinsic and the extrinsic motivation. The first operates from within the individual and it is related with the sense of autonomy and self-satisfaction, while the second operates indirectly through the action of external conditions such as recognition, autonomy or financial rewards. The concept of motivation obtained the highest number of definitions (45) in the literature.

In modern organizations the concept of motivation is closely linked to increased quality and high-performance (Toode *et al*, 2011; Xiao-qing and Nan, 2010; Park and Rainey, 2013) to employee retention, knowledge sharing and lower turnover. It´s worth to mention the important role of organizational learning as an important driver of motivation (Kuvaas, Buch and Dysvik, 2012; Hansen and Alewell, 2012; Wang, Tseng and Yen, 2012).

One of the greatest challenges that organizations face is to create an organizational context that encourages employees to share knowledge within them and at the same time are motivated to learn and leveraging from IT means (Ferlie *et al*., 2012; Hiscock, 2004; Cao and Xiang, 2012).

The other attributes focused on the literature that are part of the definition of motivation are Behavior Proactivity, Knowledge Sharing and Create Knowledge.

Despite there the definitions of motivation are extremely fragmented on the literature, there was presented an analysis of several Motivation paradigms that contribute to the definition presented here: Motivation is both an internal and/or external intangible capacity that drives the performance of a task under an organizational context.

3.6 - Definition of New Ideas Generation

More and more organizations start to invest in the development of new ideas to assure their competitiveness in the market to surpass their competitors and become innovative. This concept is connected with working on progress new concepts that need to be complemented with further specialization or inputs. This concept is traditionally a part of R&D and NPD environments (e.g. IT Industry), however it is progressively becoming habitual in virtually every part of organizations since there is an increasing manager awareness of the benefits of developing and distributing knowledge within the organization through the development of practices and policies that promote the adoption and development of new ideas. Additionally this awareness is extended to knowledge and information exchange with external sources such as clients, suppliers and even competitors through partnerships and knowledge alliances. The role of technology in the process of knowledge dissemination and developing knowledge is also increasingly higher, facilitating expertise and knowledge integration in the enhancement of new products and services (Hirunyawipada *et al*.2010; Johannessen *et al*., 1999; Yang, 2005; Huber 2013; Wright *et al*., 2012; Hoegl and Schulze, 2005; Navarro *et al*. 2010).

Table – 29: The main Types of Knowledge in Organizations				
Types of knowledge	**Learning by**	**What is learned How**	**How to share it**	**Media**
Systemic Knowledge	Studying patterns	New ways of thinking about (facts)	Computer-simulation, scenario-planning, etc.	Systemic Tools
Explicit Knowledge	Listening/reading	Know What	Communication	Books, lectures, electronic media, etc
Tacit Knowledge	Using/doing/experimenting	Know how	"Brainstorming camps"	Practical experience, Apprenticeship-relationship
Hidden Knowledge	Socialization	Knowing how we know	Focus Groups	Questioning underlying assumptions and mental models
Relationship Knowledge	Interacting	Know Who	Partnership and Teamwork	Social Settings

Source: Figure 3. Information and knowledge management." - Adapted from Johannessen Olsen and Olaisen (1999); p.131

There are almost no definitions of this term in the scientific literature, those who exist are mainly connected with creativity and with innovation. However there are several perspectives that contribute to a common understanding among authors and researchers that are presented on the above chapter, and that contribute to the present definition: New Ideas Generation is the capacity to implement both relational and procedural actions that allow the development of individual or group work in progress of new solutions to tackle markets needs.

3.7 - Definition of Level Employee Competence

This concept in the scientific literature has a triple focus, divided between organizational competence level assessment of employees, the development of present or new competences and how competence drives knowledge utilization, creating experience. Organizations are nowadays concerned with enabling their employees with all possible means to upgrade, supervise and learn competences that will be reflected on individual and organizational performance to create value for stakeholders and financial profit. This dynamic is vital to create a competitive advantage and to build up the core competence of organizations, therefore modern organizations need to develop a training competence that

allow them to keep the pace and get ahead of competitors. Beside the internal perspective of competence there is an increasing effort to capture external knowledge in dealing with the market, leveraging on IT means but also on relational processes that promote the integration of the organization in the global market.

Organizations need to continuously develop and assess their competence base, leveraging on their routines, processes and knowledge in order to use their expertise, to close knowledge gaps, improve performance, renew competence and achieve a sustainable competitive advantage (Camisón and Forés, 2010; Massingham, 2010; Formentini and Romano, 2011; Xiang and Xu, 2009; König, Diehl, Tscherning and Helming, 2013; Jolink and Dankbaar, 2010; Cepeda and Vera, 2007; Chen, Wang and Ye, 2010).

Figure 12 – Competitive Advantage Types
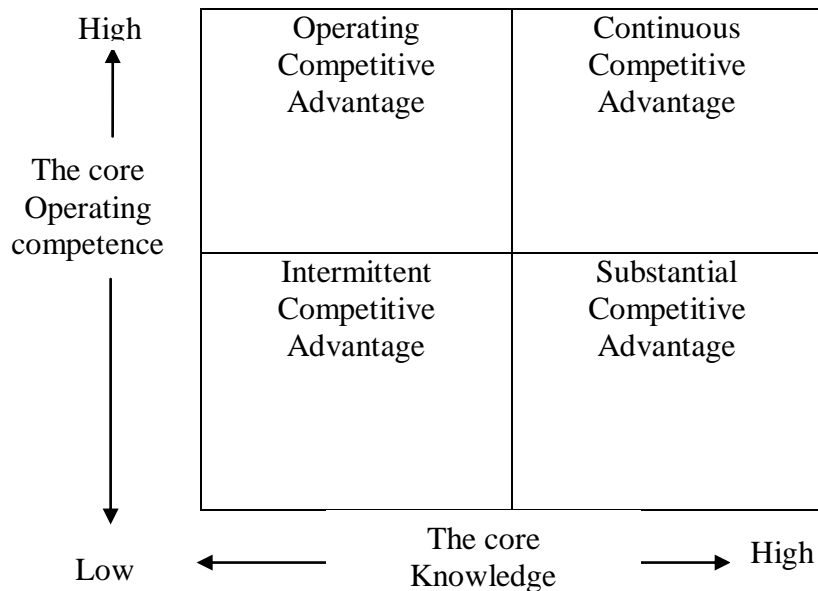
Source: "Figure 1 – "The Cultivation of the Corporate Core Competence";
Xiang and Xu (2009); p.2

Due to the broadness of the term Employee Competence there is much diversity in the approach to employee competence, therefore this term is not defined effectively in the scientific literature. The previously conducted analysis on Chapter 3, of the attributes and practices and the contributions of the paradigms of employee competence resulted in the following proposed definition: Employee Competence is simultaneously the organizational capacity to assess employee knowledge utilization and the perceived

bundle of knowledge, skills and attitudes used in performing an organizational role possessed by an employee.

3.8 - Survey

In order to indentify the set of attributes and practices that are more relevant for each one of the analyzed paradigms it was developed a survey that was distributed presentialy to health care professionals from private medical clinics (four in Lisbon and one in Tavira), and from four Hospitals in Lisbon (Centro Hospitalar Lisboa Norte, EPE - Hospital de Santa Maria; Hospital Beatriz Angelo; Hospital da Luz – Espírito Santo Saúde; Centro Hospitalar do Algarve - Hospital de Faro EPE). The statistical treatment of the data obtained from the surveys will allow to narrow the vast set of attributes and practices that resulted from the analyzis of the literature in chapter 2.

3.8.1 – Attributes Analysis

The analysis of the number of references of each attribute of the six dimensions allowed to make a selection of the most relevant attributes on the literature. All attributes that are contained in an attribute with more references were excluded, despite there is no repetition of attributes between each category there can be complementariety (e.g. organizational values and organizational culture).

All attributes from each of the six dimensions with less than 20 references were excluded from further analysis on the survey. The complete attribute tables, before exclusion, are displayed on Table Annexes 30, 32, 34, 36, 38 and 40.

The above mentioned process allowed a selection of the following 13 leadership attributes, Motivational (62), Formal Leadership (46), Transformational (44), Informal Leadership (42), Charismatic (30), Attentive to Followers Needs (27), Transactional (26), Inspirational (23), Intelligent (22), Maintains Relationships (22), Orientation Provider (21), Coordinator (20), Decision Maker (20). In this category there were 46 excluded attributes. The figure 13 illustrates this process (also in annex table 31).

The same process resulted in 40 most relevant creativity attributes according to the literature are Group (55), Innovation (52), New (50), Environment (49), Performative (49), Ideas (48), Personality (47), Dynamic (46), Learn (46), Organizational (46), Experience (45), Team (45), Change (44), Critical (43), Interaction (41), Advantage (38), Competitive (36), Construct (36), Complex (36), Explicit (33), Social (32), Collective

(31), Creation (31), Generation (31), Thinking (styles/skills/original/new) (31), Solution (30), Behavior (29), Combination (Internal/External) (29), Capability (27), Process (27), Conflict (24), Autonomy (23), Diversity (23), Skills (23), Project (22), Workplace (22), Tacit (21), Techniques (21), Time (21) and Training (20). There were excluded 27 attributes. The figure 14 illustrates this process (also in annex table 33).

There were selected 15 most relevant attributes for recruitment, Commitment (36), Skills (Hard) (36), Activities (33), Staffing (28), Organizational Culture (25), Experience (24), Capabilities (23), Selection (External) (23), Costs (22), Diversity (22), Qualifications (21), Retention (21), Strategies (21), Implementing (20), and Policy (20). There were 57 attributes excluded from this dimension. The figure 15 illustrates this process (also in annex table 35).

The 10 most relevant attributes from motivation are Create Knowledge (40), Learning Environment (37), Behavior Proactivity (31), Knowledge Sharing (29), Attitude (28), Commitment (25), Organizational Values (25), Collaboration (24), Incentives (23), and Climate (21). The selection process excluded 41 attributes from this dimension.

The figure 16 illustrates this process (also in annex table 37).

There are 22 most representative new ideas generation attributes, Adoption of New Ideas (46), Exploration (29), Idea Economic Value (29), Innovation Strategy (29), Knowledge Tools (29), Partnerships and Alliances (29), Service and Product Improvement (29), Flexibility of Processes (26), Integrate Expertise and Knowledge (25), Risk Taking (25), Exploitation (24), Shorten New Product Time Cycle Production (24), Combination of Ideas and Recombination (23), Conversion of Knowledge from Tacit to Explicit and Explicit to Tacit (23), Exchange Experiences (23), Communicate Clearly an Idea (22), Collaboration between Organizations (22), Context Specific Factors from the Firm (21), Entrepreneurship (21), R&D (21), Sustainable Competitive Advantage (21) and Intangible Assets (20). There were excluded 93 attributes from new ideas generation. The figure 17 illustrates this process (also in annex table 39).

For employee competence the following 17 attributes were considered more relevant in the literature: Competence Transfer (36), External Competence (35), Competitive Advantage (34), Core Competence (33), Competence Experience (29), Training Competence (26), Activity Performace (25), Decision-Making Competence (25), Skill Assessment (25), Collective Skills (23), Performance Antecedents (23), Building Competencies (22), Firm-Specific Comepetence (22), Competence Acquisition (22),

Close Knowledge Gap (21) and Strategic Competence (20) and Enhance Competence (20). There were 62 articles excluded from this dimension. The figure 18 illustrates this process (also in annex table 41).

3.8.2 – KM Practices Analysis

The selection of the KM practices for Leadership, Creativity, Recruitment, Motivation, New Ideas Generation and Employees´ Competence took in account the most relevant practices from the most representative articles, displayed in tables 16, 19, 21, 23, 25, and 27. Within each of the five KM processes of this dimension the duplication of practices was taken into consideration, therefore duplications were eliminated.

All leadership practices contained in the less relevant articles, with less than 4 references, were excluded (Table 42 in Annex). This process allowed to identify 99 practices for this human capital dimension (Table 43 in Annex). The most relevant practices belong to the articles A1, A2, A3, A6, A7, A10, A17, A19, A41, A66, A67 and A82, as seen in table 16.

The process of selection for creativity practices was the same. The less relevant KM practices from articles with less than 3 references were excluded (Table 44 in Annex). This same procedure allowed the selection of 32 practices, presented (in Table 45 in Annex). The most relevant practices belong to the articles A1, A5, A8, A13, A36, A58 and A64, displayed in table 19.

In the selection of KM practices for recruitment there were eliminated all practices from the articles with less than 3 references (Table 46), which allowed to identify 26 practices, displayed in Annex (Table 47). The most relevant practices belong to the articles A1, A26, A40, A49, A52, A56, A 61, displayed in table 21.

The selection for motivation practices eliminated all KM practices of articles which had less than 3 references, resulting in 40 practices, in Annex (Table 48). The most relevant practices are contained in the articles A16, A17, A20, A29, A30, A32, A43 and A45, in table 23 (in Annex Table 49).

The KM practices contained in the analyzed new ideas generation articles with less than 3 references were excluded from further analysis (in Annex Table 50) , resulting in 40 practices, presented in Annex Table 51. The selected KM practices are displayed in the articles A2, A3, A4, A5, A8, A13, A23, A40, A41, A48, A53, A59, A64, A66 and A68, in table 25.

The KM practices within the articles analyzed for employee competence with less than 4 references were not furtherly regarded in consideration (in Annex Table 52). There were 23 KM practices selected for this dimension, retrieved from the analysis of the articles A1, A22, A23, A50 and A51, in table 27. Presented in Table 53 in Annex.

3.8.3 - Survey Development

The survey was aimed at directly collect information from respondents regarding their view regarding most relevant attributes and the practices for each one of the six human capital paradigms. The respondents were firstly asked to select five attributes from each of the Leadership, Creativity, Recruitment, Motivation, New Ideas Generation and Employee Competence, to then select 10 of the most important practices to manage these human capital dimensions.

The survey was developed in order to collect information from 28 respondents from the healthcare industry, which ranged from professionals from nine different institutions, both in Algarve and in Lisbon. In the health care institutions from Algarve the respondents were medics from the public and private sector and administrative personnel, in Lisbon the respondents were Medics from the private sector, Nurses from the public sector, HRM Technicians and Administrative Personnel. The survey used is displayed in annex (Annex I).

Chapter IV - Survey
4 - Survey Analysis

The analysis of the survey results firstly displays an approach to attributes of the six paradigms, followed by an analysis to the practices.

The questionnaire was administred presentialy in nine healthcare institutions, and had the participation of 28 health care professionals.

From the 117 attributes, in the six paradigms, 5 attributes were not selected by any participant, in Creativity there were no selection of "Generation", "Skills", "Time" and "Training" and in New Ideas Generation there were no selection of Alliances; Conversion of Knowledge from Tacit to Explicit and Explicit to Tacit".

The figures below illustrate the frequency of choice of each attribute according to human capital dimension:

Figure 13 – Frequency of Leadership Attributes; Source: Elaborated by the Author

Attribute	Value
Motivational	19
Maintains Relationships	18
Informal Leadership	17
Transformational	17
Formal Leadership	15
Coordinator	10
Charismatic	10
Transactional	8
Attentive to Followers Needs	8

Figure 14 – Frequency of Creativity Attributes; Source: Elaborated by the Author

Attribute	Values
Learn	15, 14
Group	13, 13
Ideas	12, 10
Collective	9, 5
Organizational	5, 4
Thinking (styles/skills/original/new)	3, 3
Change	3, 3
Workplace	3, 2

**Figure 15 – Frequency of Recruitment Attributes; Source:
Elaborated by the Author**

Attribute	Frequency
Organizational Culture	19
Costs	17
Retention	15
Skills (Hard)	14
Commitment	13
Experience	12
Activities	11
Qualifications	8
Selection (External)	7
Diversity	6

Figure 16 – Frequency of Motivation Attributes

Attribute	Frequency
Knowledge Sharing	23
Organizational Values	20
Create Knowledge	19
Incentives	17
Learning Environment	15
Collaboration	14
Attitude	12

Figure 17 – Frequency of New Idea Generation Attributes

Attribute	Frequency
Integrate Expertise and Knowledge	18
Service and Product Improvement	17
Adoption of New Ideas	16
Knowledge Tools	15
Exchange Experiences	14
Innovation Strategy	11
Collaboration between Organizations	7
Combination of Ideas and…	7
Exploration	5

Figure 18 – Frequency of Level of Employee Competence Attributes

Attribute	Frequency
Competence Experience	17
Competence Transfer	14
Firm-Specific Comepetence	13
Decision-Making Competence	13
Collective Skills	12
Activity Performace	11
Competence Acquisition	10
Close Knowledge Gap	8
Performance Antecedents	6
Enhance Competence	6

Regarding the 13 Leadership attributes, "Motivational" (19) was the most frequently chosen by respondents, followed by "Maintains Relationships" (18) and "Informal Leadership" (17). The less relevant attributes in this category were "Inspirational" (2), "Orientation Provider" (5) and "Intelligent" (6).

From the 40 attributes of Creativity, "Experience" (15), Learn (14) and "Diversity" (13) were the most relevant. Without contemplating 6 attributes that were not selected, the less relevant attributes of this paradigm were "Training" (1), "Dynamic" (1) and "Team" (1).

The most relevant, from the 15 attributes of Recruitment, were "Organizational Culture" (19), "Cost" (17) and "Retention" (15). The less selected attributes of this dimension were "Policy" (2), "Capabilities" (3) and "Staffing" (4).

In the 10 attributes from "Motivation", the highest frequency was from "Knowledge Sharing" (23), "Organizational Values" (20) and "Create Knowledge" (19). The attributes with less frequency of selection by respondents were "Climate" (2), "Commitment" (6), and with the same frequency "Behavior Proactivity" (12) and "Attitude" (13).

The highest frequency of selection of the 22 attributes of New Ideas Generation was "Integrate Expertise and Knowledge" (18), "Service and Product Improvement" (17) and "Adoption of New Ideas" (16). Without mentioning the 2 attributes without any selection from respondents, the less relevant were "Flexibility" (1), "Risk Taking" and "Entrepreneurship" (1).

In the last category, Level of Employee Competence, the most relevant attributes from the possible 17, were "Competitive Advantage" (17), "Competence Transfer" (14) and "Firm-Specific Comepetence" with the same frequency as "Decision-Making Competence" (13).

It´s worth mentioning the very significant difference in terms of variation between the six paradigms, ranging from 40 (in Creativity) possible attributes to 10 (Motivation). For instance in Creativity there are six attributes that were not selected, and 11 attributes that were only selected once. In Motivation the concentration of frequency is higher, with 8 attributes that were selected more than 12 times and until 23 times. Lastly, the dimension Employee Competence is the one that presents nearest values within it in terms of attribute selection, ranging from 3 to 17.

The analysis of the KM practices encompassed 260 organizational procedures, distributed within the six dimensions of human capital. Due to the vast number of KM practices only the most relevant to respondents are presented in this analysis, displayed from figure 13 to figure 18. The Leadership dimension accounted for the most of KM practices, with 99 (38%), Creativity accounted 32 (12, 3%), Recruitment 26 (10%), Motivation and New Ideas Generation with 40 (15, 3%) and Employee Competence with 23 (8, 8%). This

analysis reinforces the great influence that Leadership has on organizations, even in a more operational level were leadership support to the initiatives is of great significance.

Regarding Leadership there were 15 practices that were not considered by the respondents: "Attend Lecture Series and Special Speaker Series"; "Team Knowledge Assessment or Audit" ; "Chief Knowledge Officers, Chief Learning Officers and Chief Privacy Officers" ; "Insights of Individuals are Converted into Knowledge"; "Identify Intermediate Goals Leading up to Acquisition Performance" ;"Leveraging Technology in Education (Schools/College Institutions)- deploying web-based courses"; "Leadership Research (business knowledge and behaviors, information search, acquisition and use) as part of a decision situations systematic examination of leaders"; "Instituting Programmes of Internal and External Knowledge Transfer, establishing communities of learning, knowledge-based Human Resource Strategies, and IT- Based Knowledge Management Systems - Dissipate the NIH (not invented here) syndrome"; "Customised Assortment of Communication Tools - Define synchronous (presential meetings) and asynchronous communication (e-mails)"; "Sharing the Same Physical Space: Project Debriefings/Social Events"; "Team Knowledge Application and Team Knowledge Reuse"; "Provide Mechanisms and Processes to Create a "Smart" Organization (to learn from experience-based knowledge and transfer it into new knowledge in the form of product and/or service innovations)";"Team Continuity/Consistency"; "Tools that Aggregate Individual Knowledge";"Incentive System". These practices account for 15, 1% of the total of KM practices for the leadership dimension.

In this dimension the most relevant practice was "Performance Evaluation linked to IC Retention", considered 10 times. The second and third most selected practices were "Strategic Management and Leadership Performance Implementation" and "Programs to increase focus in Monitoring Quality Management", respectively considered 9 and 8 times.

Figure 19 – Frequency of Leadership KM Practices; Elaborated by the Author

Figure 19 – Frequency of Leadership KM Practices; Elaborated by the Author

Practice	Frequency
Professional Circles and Non-formal meetings (using a social setting outside the company to discuss professional topics are approached to promote Creativity and Innovation)	5
Developing Protocols for Internal Access to Knowledge Assets of the Organization (Sharpening Up of Internal Access Procedure)	5
Mentoring	5
Maintained Ongoing ties with Academia	5
Embodied competencies into organization's norms and values	4
Increase the Capacity to Learn(Past Failures and Successes in Strategic Decision-Making; Deepening the Knowledge Base of the Company;reaching Knowledge Embedded on Products and on	4
Leverage, Protect and Preserve existing Knowledge Resources (Make Knowledge Inimitable and Non-substitutable)	4
Promote the contribution of long-term employees to provide Innovative ideas and implement them (Extensive Experience and Deep Knowledge)	4
Benchmark (Role Model)	4
Improve Team's Knowledge Processes (team matrix, the expert web, the project compass, visual protocolling, or lessons learned repositories)	4
Mutual Briefings and Updates	4
Internal Journals (enable employees to share their ideas and experiences across the organization)	4
Use HR Practices to support Climate for Learning at an individual and group levels	4
Qualifications for Jobs	4
Enable Exchange of Tacit Know-How, Skills, and Abilities	4
Strategic Alliances for Learning (developing forums with different groups; job rotation; personnel transfers; ongoing training and development programs; sharing knowledge through written	4
Team Knowledge Elicitation	4
Organizational Culture that fosters Cooperative Involvement (Trust linked with Incentives; Combine technology with the organizational culture conducive to knowledge creation and sharing)	3
Increase the capacity to Learn from Past Failures and Successes in Strategic Decision-Making; Deepening the knowledge Base of the Company (reaching knowledge Embedded on Products and	3
Systematic Reviews or Lessons learned sessions	3
Segmenting and Catalogue Knowledge Assets (increase it's Protection)	3
Converting Public Relation and Communication Knowledge and Expertise into Effective Tactics and Strategies	3
Segmenting and Catalogue Knowledge Assets (increase it's Protection)	3
Converting Public Relation and Communication Knowledge and Expertise into Effective Tactics and Strategies	3
Implementing and linking Sustainably (cohrough a conceptual framework with Organizational Practices)	3
Implement a Knowledge Dissemination Measurement Framework	3
Provide knowledge regarding stakeholders' goals in relation to team's work	3
Promote New Application of Previous Knowledge	3
Lead Privacy Issues (government/legislative bodies and industry leaders)	3
Managing Communications between Operational Areas and External Stakeholders	3
Promote interaction and communication in social settings to drive knowledge sharing (synthetization of individual knowledge)	3
Network Resource Sharing	3
Leaders collaboration across departments of the organization	3
Institutionalizing Knowledge Sharing Incentives	3
Mobilize expert knowledge within the organization	3
Create Social robust Knowledge in interaction with Society and Stakeholders (Organizational Initiatives of Social Responsibility)	3
Win Knowledge Resources through contacts with the community (e.g. conferences; education; industry networking; collaborative networks of researchers)	3
Train employees better equiping them with the latest skills (train developed internally or externally)	3
Retrieve Knowledge from various sources interlocking it with data	3
Training	3
Structural Closure: important in interpersonal networks, to foster shared behavioral norms and knowledge-sharing routines, curbing opportunism in collaborative networks, with higher	2
Promote a Knowledge Sharing Culture (Socio-Organizational and Culture as drivers) to maximize return on: tangible and intangible knowledge assets and resources such as the tacit	2
Transmit to employees that they are the creators/transferers of knowledge and users centering their attention on KM efforts (getting the right knowledge to the right people)	2

The Creativity dimension practices that were least important to respondents are "Create certain norms of behavior from shared values and beliefs within an organization to implement change";"Change Management – necessary management skills to effect change by exploring the characteristics and tools of a change process (e.g., strategic communication)"; "Promote Customers Involvement (e.g consumers designing a prototype to be used as a model for a product)"; " Near-Net-Shape Casting: Integrating in-house expertise with the Knowledge of Industry Experts and Suppliers"; " Leadership support to encourages teamwork cohesion , organization learning, implement innovation (technical and administrative) "; "Provide rich cognitive resources and make diverse approaches available in order to increase team knowledge stock and opportunities to recombine existing information and ideas (Content Approach; Process Approach) to improve innovation"; " Promote Reward System that fosters Creativity and Motivation"; "Exploitation of Network Sources". These KM practices have a frequency of selection comprehended between 3 and 6 times, accounting for 25% of total practices.

The most relevant KM practices from creativity are "Create and locate organizational knowledge", selected 16 times, "Mechanisms to assist and enable the management of knowledge and innovation to foster creativity", selected 14 times, and "Vicarious

Learning - Learn indirectly from the experience of other units as well as directly from their own experience", selected 13 times.

Figure 20 – Frequency of Creativity KM Practices; Source: Elaborated by the Author
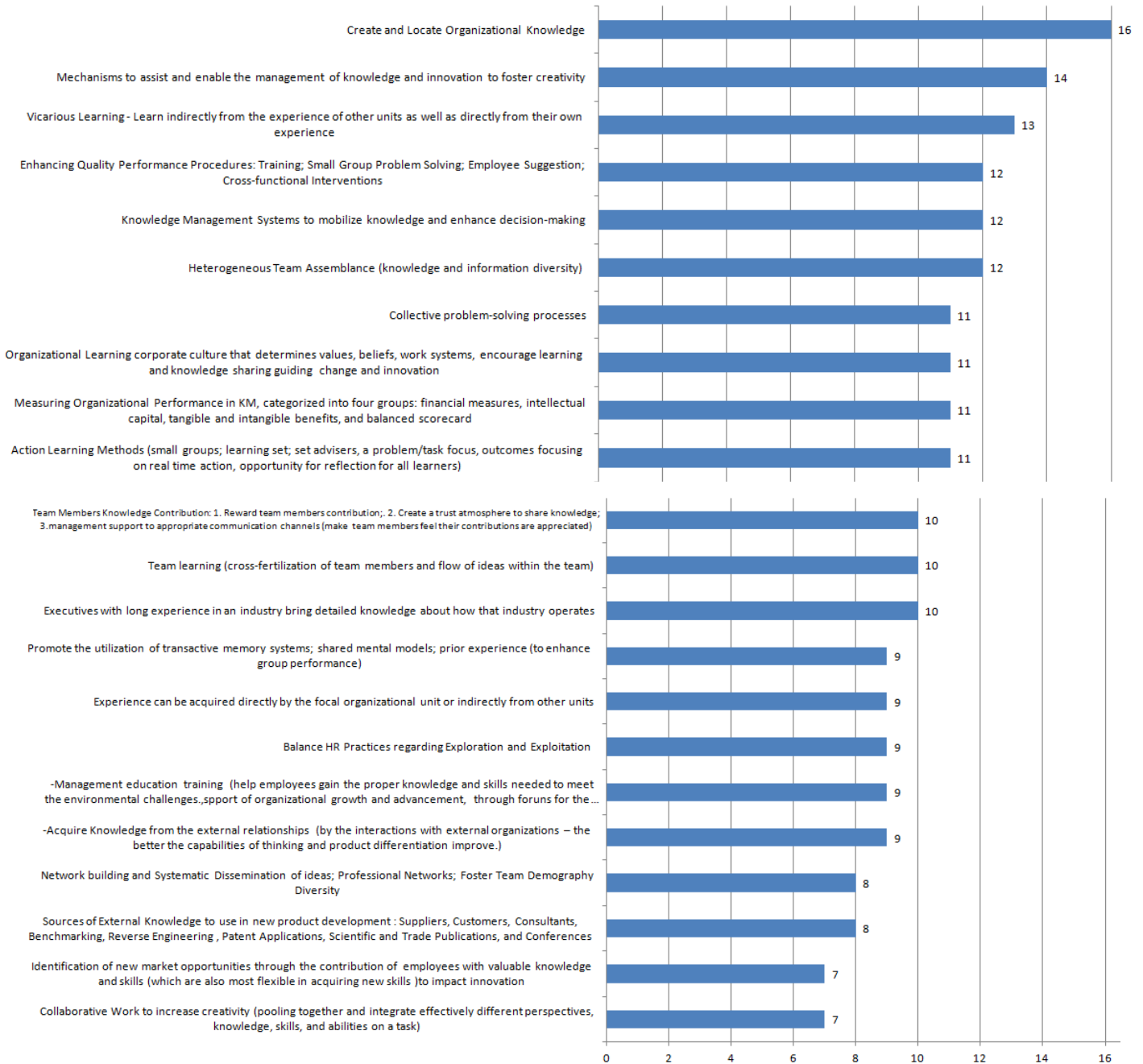
The recruitment practices that are less considered by respondents were "Socio-Spatial Knowledge Networks: (1) identify strategic locations within a community for future interventions and, (2) evaluate the effectiveness of existing interventions (e.g. population groups prone to diabetes); "Diversity Management - effective recruitment and management of people which are diverse in terms of gender, culture, race, age, religion, language and nationality"; "Construct detailed job description that contextualizes and provides background information of the position, the job duties and the performance indicators "; "Establish and maintain an effective communication system - providing HR professional advices for the business (Manage the HR function within the business, develop HR associates, increase the team productivity and service level)"; "Lifetime Employment, Seniority-Based Reward (e.g. Promotion), Enterprise Unionism, Strong Company Philosophy, Unitary Corporate Culture, Long-Range Staff Development Planning, Consensus Decision Making ". These practices were selected between 3 and 8 times, accounting for 19,2% of total KM practices from recruitment.

The most selected practices from recruitment were "Salary with a Fixed-Base Component combined with a variable component (performance-related)"; "Environmental Management System: 1- Provide training; 2- Guarantee effective communication; 3- Motivate employees", both selected 17 times and "Control on staff recruitment and transfers in line with health service needs", selected 15 times.

Figure 21 – Frequency Recruitment KM Practices; Source: Elaborated by the Author

Practice	Count
Performance Management of Individual Contribution (combining quality of care provided and the amounts)	12
Evidence-informed Decision Making - consideration of the best available research evidence along with other important factors that influence program and policy decisions	12
Culture of Inclusion - enables people with distinct experiences, mental models and ways of understanding the world to work together in order to achieve individual, collective and organizational growth	12
Top-down policy programmes of self-management support has to increment effective chronic disease management	11
Implement Competency Frameworks to Enhance Performance	11
Develop and implement HR tactics and action plans in the organization to support the departments in achieving the business objectives	11
Self-Management (Chronic Care) - group programs; content tailored to participants; disease-specific programs or generic programs	11
Job Analysis (gathering and recording of information on a job /creating the job description and the job specification)	11
EPP (Expert Patients Programme) - improve self-efficacy;enable participants to more effectively manage their condition through courses that focus improving communication skills improvement the patient–professional	10
EPP (Expert Patients Programme) - improve self-efficacy;enable participants to more effectively manage their condition through courses that focus improving communication skills improvement the patient–professional relationship	10
Employment practices that create attractiveness (strong opportunities for career growth and development, for potential job applicants	10
Diversity Management practices and the attraction of high achievers (Women and minority recruitment)	10
Recruitment & Selection Planning Phase (job analysis;review and development of a job description;job specification and person profile for a particular vacancy; development of a competency framework;deciding on the selection criteria and methods)	10
The job specification lists (of the knowledge, skills and abilities required for applicants to carry out the job duties and achieve performance standards)	9

The motivation dimension KM practices that were less frequently selected were: "Empowering Leadership (favors knowledge utilization) "; "Knowledge transfer and exchange between researchers and users in the healthcare sector";"Integrate business processes with (e.g. routines, R&D, and technical support) and project/service/product processes that tend to be temporary and unique (e.g. project-specific knowledge and know-how)"; "Methodologies that rely on retrospective data from critical incidents of knowledge transfer (e.g., best practice, innovations) whose merits have been previously recognized"; "Enhance Perceived organizational Support (POS) to promote employee retention"; "Engage in Formal knowledge governance (organizational structure, routine practices) and Informal knowledge (governance mainly involves networks, culture)"; "Recordkeeping of day-to- day operations, to improve future decision-making"; "Promote the creation of shared representations, interpretations, systems of meaning, and knowledge bases"; "Knowledge Governance through it´s structure, reward systems, job design and leadership, networks, company culture, management style, organization fairness and managerial support"; "External Adaptation and Internal Integration through organizational culture (shared values, assumptions, beliefs, and behavioral norms)"; "Solid policies and practices that evaluate accurately employee performance and recognition systems"; "Creating an Employee Scorecard (GARP®) for tracking employee performance metrics in order to improve the performance of an entire organization,

department, or a small team to drive future performance";"Manage Organizations'
information gather not only in traditional formats (files; paper) but in information
technology systems";"Computer-supported collaborative learning (CSCL);
"Development of networks as channels promoting the relation between firms or units in a
value chain, as well as social relationships between decision makers or players." These
practices account for 37, 5% of the total of KM practices, and were considered 1 to 6
times.

The most selected practices for this human capital dimension were "Experience through
observation Procedures focusing on acquiring tacit and explicit knowledge", selected 15
times, "Efficiency Strategy - Development of expert knowledge of young employees to
become specialists in a certain function, exploitative learning mode focused on improving
and reconfiguration of successful processes and established routines", selected 13 times,
and "Encourage individuals to contribute to the collective knowledge of the firm and to
enhance their own knowledge base through "knowing exactly what they know"
programs", selected 12 times.

Figure 22 – Frequency of Motivation KM Practices; Source: Elaborated by the Author
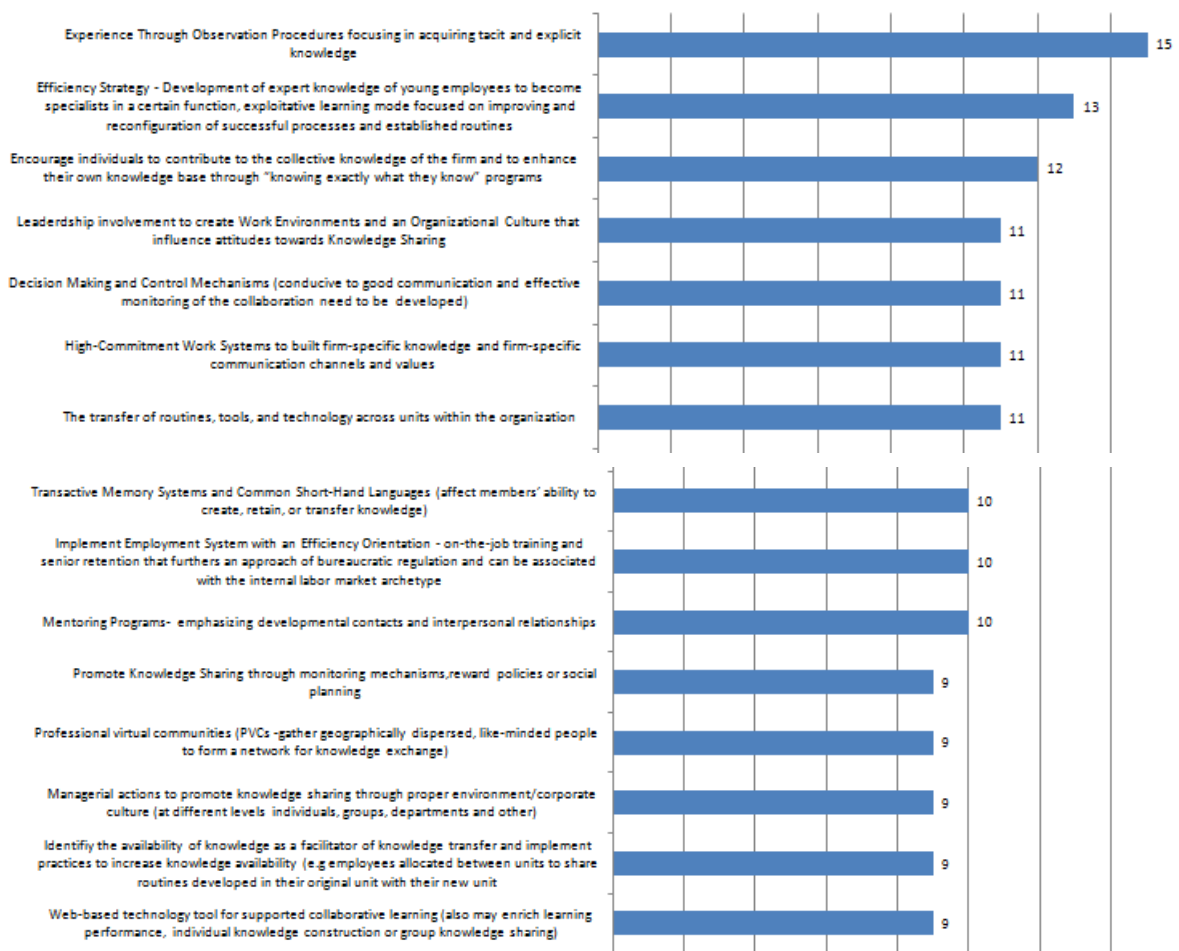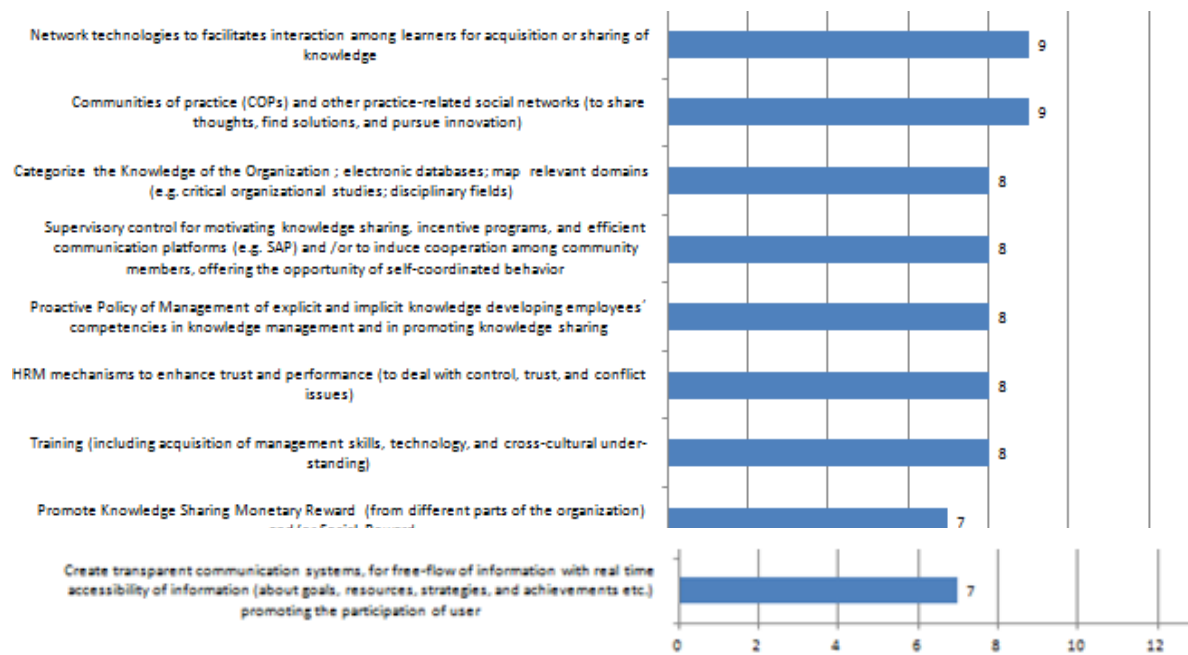
The practices for New Ideas Generation that were less relevant to respondents in new ideas generation are: "Assistive Technology Information Network: service history of rehabilitation technologies, consumer feedback, external product reviews, standard operating procedures and frequently asked questions may be among externalized, documented knowledge"; "TM fosters 'employer brand' and 'workforce segmentation' in order to attract and retain individuals"; "Talent Management - collective approach to recruit, retain and develop talent within the organization for it´s future benefit";"Communities of practice; trade fairs; personal acquaintance"; "Promote knowledge productive practices both, individual and social to align them with other processes"; " Informal Knowledge Channels (reading literature and patent specifications, monitoring competitors, recruiting specialists, and participating in trade fairs and conferences)"; "Six Sigma Black Belt Projects – development of measures of explicit- and tacit- knowledge-creation practices in process improvement"; "The empowerment of individuals is vital, in order to encourage experimentation with new approaches to how business is conducted and the development and utilization of knowledge and skills";"Chief Knowledge Officer supervision of the right knowledge for utilization after dissemination"; " TM fosters 'employer brand' and 'workforce segmentation' in order to attract and retain key employees". The aforementioned practices account for 25% of total KM practices, the selection of these practices ranges from 2 to 4 times.

The most relevant practices of this dimension were "Talent Management - focusing on a small segment of the workforce that distinguishes itself by current performance or future potential and develop talent through "Corporate Institute of Personnel and Development

(focusing on 'talent pools', internal and external)", mentioned 13 times. There were 5 practices that were selected 11 times, which are: "Good Communication Channels among different organizational stakeholder groups to facilitate knowledge flow into decision-making"; "Talent Management as a core competency of the organization (identify strategic human resources)";"People-oriented soft practices for capturing tacit knowledge for intervention success, more analytical focused practices to capture explicit knowledge"; "Develop routines that lead employees to integrate their individual knowledge into daily activity of organizations" and "Organizational Learning (organizational learning from four angles: 1. Adaptive learning, 2. Hypothetic sharing, 3- Development of knowledge base, 4- Effect of institutionalization of experience) ".

Figure 23 – Frequency of New Ideas Generation KM Practices; Source: Elaborated by the Author
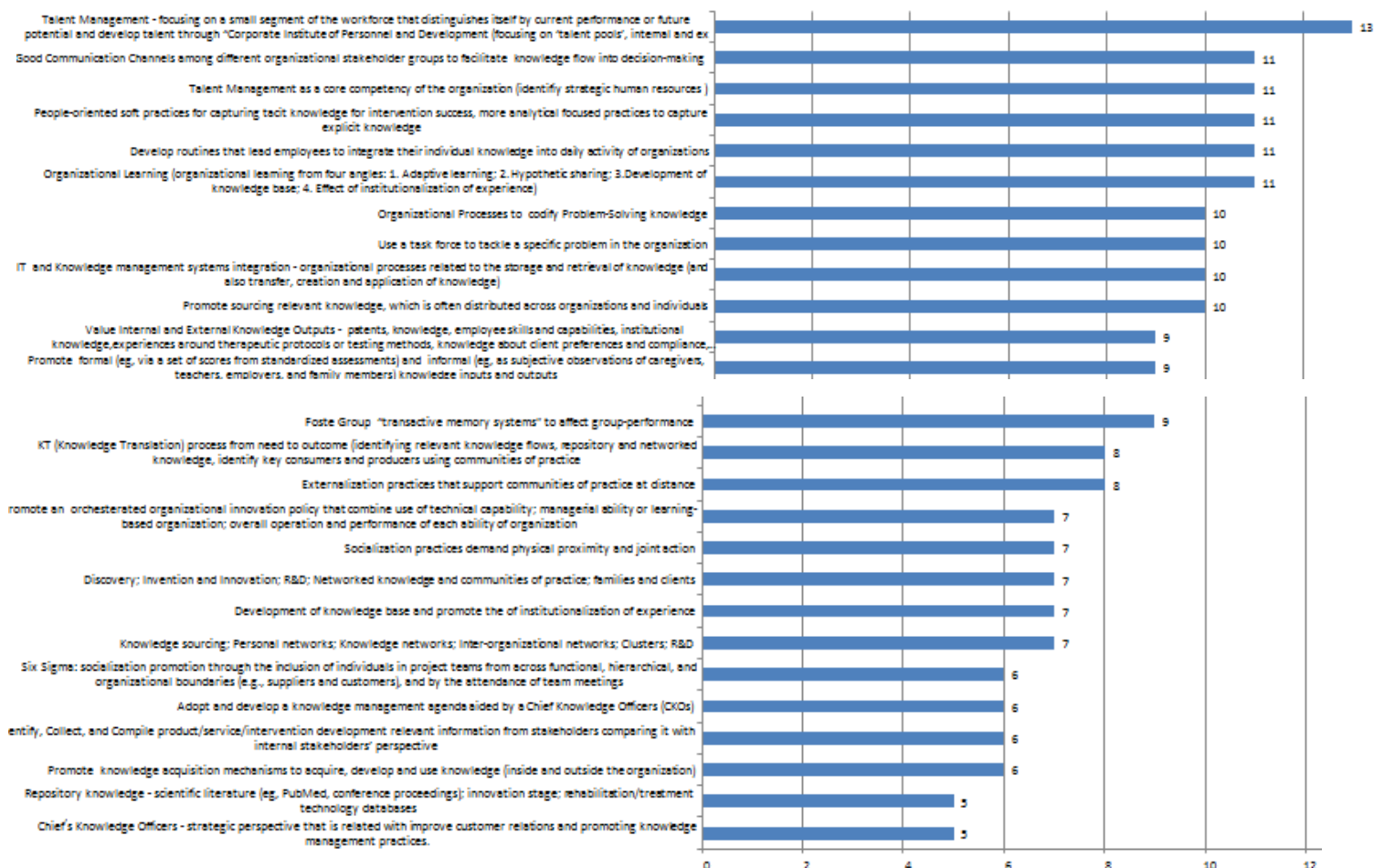
Lastly, for Employee Competence the less relevant practices are "Competence portfolio"; "Implicit knowledge externalization or sharing through socialization and explicit knowledge combination or internalization to render it implicit"; "Foster active learning (learning by doing)"; "Internal development of technological competences". These

practices account for 17, 3% of total KM practices for this dimension and were selected between 4 and 7 times.

The most frequently selected practices from employee competence were "Evaluations of experience gained", selected 18 times. The following practices, all with a frequency of selection of 17, were "SAP and other IT means to enhance knowledge

retention strategies"; "Integrate Competence Management Systems into KM System" and "Balance organizational culture, rational goals, open systems (e.g. idea generation, information uptake) and internal processes (e.g. controlling, information management)".

Figure 24 – Frequency of Employee Competence KM Practices; Source: Elaborated by the Author
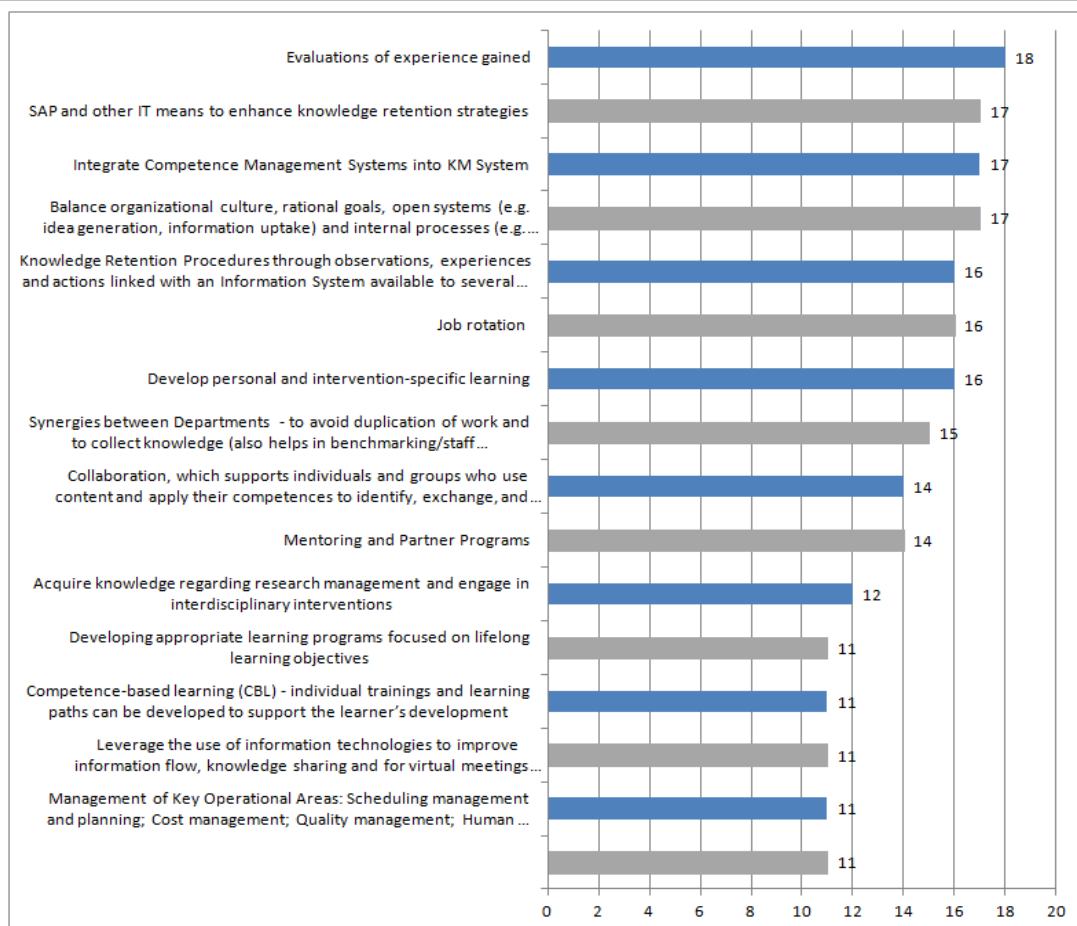
4.1 –Attribute and Practices Selection

It´s important to note that the selected attributes and practices were already presented in chapter 3. Furthermore, the purpose of the survey was to support the selection of the more

relevant attributes and practices that distinguish the analyzed six human capital dimensions, to use this selection in the assembling a framework.

In order to enhance the accuracy of the analysis of the HC attributes and KM practices resulting from the literature and from the survey, it´s important to first mention that the number of attributes and practices among the six human capital varied considerably, for instance Creativity accounted 40 attributes and Motivation only 10, conversely the great amount of KM practices associated with Leadership (99) contrast with the amount of KM practices presented in Employee Competence (23). Therefore it was necessary to adopt a procedure regarding the selection of the most relevant attributes and practices in terms of representativity, the remaining attributes were not considered.

From the presented leadership attributes available in the survey, we selected the ones with higher impact according to a percentage of 87, 1%, corresponding to the 9 attributes:

- Motivational;

-Maintains Relationships;

-Informal Leadership;

- Transformational;

- Formal Leadership;

- Coordinator;

-Charismatic;

- Transactional;

-Attentive to Followers Needs.

The same process was applied to the most representative creativity attributes that were selected according to a percentage of 83 6%, corresponding to the 16 attributes:

- Experience;

- Learn;

- Diversity;

- Group;

- Innovation;

- Ideas;

- New;

- Collective;

- Interaction;

- Organizational;

- Capability;

-Thinking (styles/skills/original/new);

- Advantage;

- Change;

- Performative;

- Workplace.

For the recruitment attributes a percentage of 87, 1%, corresponding to 10 attributes was found:

- Organizational Culture;

-Costs;

- Retention;

-Skills (Hard);

- Commitment;

- Experience;

- Activities;

- Qualifications;

-Selection (External);

- Diversity;

The same process allowed to select a percentage of 85, 7% of the attributes from motivation, resulting in 7 main attributes:

-Knowledge Sharing;

-Organizational Values;

-Create Knowledge;

-Incentives;

-Learning Environment;

-Collaboration;

- Attitude;

The new ideas generation attributes were found based on a percentage of 78, 6%, corresponding to a total of 9 attributes:

- Integrate Expertise and Knowledge;

-Service and Product Improvement;

-Adoption of New Ideas;

-Knowledge Tools;

-Exchange Experiences;

-Innovation Strategy;

-Collaboration between Organizations;

-Combination of Ideas and Recombination;

-Exploration.

The employee competence attributes were selected having per base a percentage of 78, 6%, corresponding to a total of 10 attributes:

-Competence Experience;

-Competence Transfer;

-Firm-Specific Competence;

-Decision-Making Competence;

-Collective Skills;

-Activity Performace;

-Competence Acquisition;

-Close Knowledge Gap;

-Performance Antecedents;

-Enhance Competence;

The same procedure was performed for the practices of the six human capital dimensions. For leadership a percentage of 83, 9% was selected. The 55 selected practices were:

- Performance Evaluation linked to IC Retention;

- Strategic Management and Leadership Performance Implementation;

- Programs to increase focus in Monitoring Quality Management;

- Leveraging Best Practices throughout the organization to exploit core competencies;

- Development of Ethical Knowledge (According to the Law);

- Team Knowledge Development;

- Administration and Management Allegiance to conduct KM efforts;

- Process Teams, Taskforces, Management Teams and Advisory Teams;

- Embedding Knowledge into the Work Practices and Processes;

- Work-Based Learning and Capability Development through Specialist Training;

- Knowledge Repositories;

- Lead and Promote the Knowledge Management Agenda;

- Promote Efficiency, Adaptability and Innovativeness;

- Professional Circles and Non-formal meetings (using a social setting outside the company to discuss professional topics are approached to promote Creativity and Innovation);

-Developing Protocols for Internal Access to Knowledge Assets of the Organization (Sharpening Up of Internal Access Procedure);

-Mentoring;

-Maintained ongoing ties with Academia;

-Embodied competencies into organization´s norms and values;

-Increase the Capacity to Learn (Past Failures and Successes in Strategic Decision-Making; Deepening the Knowledge Base of the Company, Reaching Knowledge Embedded on Products and on Employees);

-Leverage, Protect and Preserve existing Knowledge Resources (Make Knowledge Inimitable and Non-substitutable);

-Promote the contribution of long-term employees to provide Innovative Ideas and implement them (Extensive Experience and Deep Knowledge);

-Benchmark (Role Model);

- Improve Team´s Knowledge Processes (team matrix, the expert web, the project compass, visual protocolling, or lessons learned repositories);

-Mutual Briefings and Updates;

-Internal Journals (enable employees to share their ideas and experiences across the organization);

-Use HR Practices to support Climate for Learning at an individual and group levels;

-Qualifications for Jobs;

-Enable Exchange of Tacit Know-How, Skills, and Abilities;

-Strategic Alliances for Learning (developing forums with different groups; job rotation; personnel transfers; ongoing training and development programs; sharing knowledge through written documents; joint ventures for knowledge acquisition purposes);

-Team Knowledge Elicitation;

-Organizational Culture that fosters Cooperative Involvement (Trust linked with Incentives; Combine technology with the organizational culture conducive to knowledge creation and sharing);

-Increase the capacity to Learn from Past Failures and Successes in Strategic Decision-Making; Deepening the knowledge Base of the Company (reaching knowledge Embedded on Products and on Employees);

-Systematic Reviews or Lessons learned sessions;

-Segmenting and Catalogue Knowledge Assets (Increase it´s Protection);

-Converting Public Relation and Communication Knowledge and Expertise into Effective Tactics and Strategies;

-Implementing and linking sustainably through a conceptual framework with Organizational Practices;

-Implement a Knowledge Dissemination Measurement Framework;

- Provide knowledge regarding stakeholders´ goals in relation to team´s work;

-Promote New Application of Previous Knowledge;

-Lead Privacy Issues (government/legislative bodies and industry leaders);

-Managing Communications between Operational Areas and External Stakeholders;

-Promote interaction and communication in social settings to drive knowledge sharing (synthetization of individual knowledge);

-Network Resource Sharing;

-Leaders collaboration across departments of the organization;

-Institutionalizing Knowledge Sharing Incentives;

-Mobilize expert knowledge within the organization;

-Create Social robust Knowledge in Interaction with Society and Stakeholders (Organizational Initiatives of Social Responsibility);

-Win Knowledge Resources through contacts with the community (e.g. conferences; education; industry networking; collaborative networks of researchers);

-Train employees better equipping them with the latest skills (train developed internally or externally);

-Retrieve Knowledge from various sources interlocking it with data;

- Training;

- Unit Based File Coordinator (Implement and coordinate a standardized filing system, regular quality audits and standard of entries, who can preserve paper-based records, and ensure that records are complying with Data Protection and the access needs;

-Structural Closure: important in interpersonal networks, to foster shared behavioral norms and knowledge-sharing routines, curbing opportunism in collaborative networks, with higher innovative outputs;

-Promote a Knowledge Sharing Culture (Socio-Organizational and Culture as drivers) to maximize return on: tangible and intangible knowledge assets and resources such as the tacit knowledge; competencies; experiences;

-Transmit to employees that they are the creators and or transferors of knowledge and users centering their attention on KM efforts (getting the right knowledge to the right people);

Regarding creativity, the same analysis allowed us to select 81, 4% of practices, resulting in a total of 22 practices:

-Collaborative Work to increase creativity (pooling together and integrate effectively different perspectives, knowledge, skills, and abilities on a task);

-Identification of new market opportunities through the contribution of employees with valuable knowledge and skills (which are also most flexible in acquiring new skills) to impact innovation;

-Sources of External Knowledge to use in new product development: Suppliers, Customers, Consultants, Benchmarking, Reverse Engineering, Patent Applications, Scientific and Trade Publications, and Conferences;

-Network building and Systematic Dissemination of ideas; Professional Networks; Foster Team Demography Diversity;

-Acquire Knowledge from the external relationships (by the interactions with external organizations – the better the capabilities of thinking and product differentiation improve);

-Management education training (help employees gain the proper knowledge and skills needed to meet the environmental challenges, support of organizational growth and advancement, through foruns for the communication of organizational strategies, new values, tools, and work performance improvement);

-Balance HR Practices regarding Exploration and Exploitation;

-Experience can be acquired directly by the focal organizational unit or indirectly from other units;

-Promote the utilization of transactive memory systems; shared mental models; prior experience (to enhance group performance);

-Executives with long experience in an industry bring detailed knowledge about how that industry operates;

-Team learning (cross-fertilization of team members and flow of ideas within the team);

-Team Members Knowledge Contribution: 1. Reward team members' contribution; 2. Create a trust atmosphere to share knowledge; 3.management support to appropriate communication channels (make team members feel their contributions are appreciated);

-Action Learning Methods (small groups; learning set; set advisers, a problem/task focus, outcomes focusing on real time action, opportunity for reflection for all learners);

-Measuring Organizational Performance in KM, categorized into four groups: financial measures, intellectual capital, tangible and intangible benefits, and balanced scorecard;

-Organizational Learning corporate culture that determines values, beliefs, work systems, encourage learning and knowledge sharing guiding change and innovation;

-Collective problem-solving processes;

-Heterogeneous Team Assemblance (knowledge and information diversity);

-Knowledge Management Systems to mobilize knowledge and enhance decision-making;

-Enhancing Quality Performance Procedures: Training; Small Group Problem Solving, Employee Suggestion, Cross-functional Interventions;

-Vicarious Learning: Learn indirectly from the experience of other units as well as directly from their own experience;

-Mechanisms to assist and enable the management of knowledge and innovation to foster creativity;

- Create and Locate Organizational Knowledge.

The recruitment practices encompassed 81, 4% of total available practices, accounting for 20 practices:

-The job specification lists (of the knowledge, skills and abilities required for applicants to carry out the job duties and achieve performance standards);

-Recruitment & Selection Planning Phase (job analysis, review and development of a job description, job specification and person profile for a particular vacancy, development of a competency framework, deciding on the selection criteria and methods);

-Diversity Management practices and the attraction of high achievers (Women and minority recruitment);

-Employment practices that create attractiveness (strong opportunities for career growth and development, for potential job applicants;

-EPP (Expert Patients Programme) - improve self-efficacy, enable participants to more effectively manage their condition through courses that focus improving communication skills improvement the patient–professional relationship;

-Job Analysis (gathering and recording of information on a job /creating the job description and the job specification);

-Self-Management (Chronic Care) - group programs; content tailored to participants; disease-specific programs or generic programs;

-Develop and implement HR tactics and action plans in the organization to support the departments in achieving the business objectives;

-Implement Competency Frameworks to Enhance Performance;

-Top-down policy programmes of self-management support has to increment effective chronic disease management;

-Culture of Inclusion: enables people with distinct experiences, mental models and ways of understanding the world to work together in order to achieve individual, collective and organizational growth;

-Evidence-informed Decision Making - consideration of the best available research evidence along with other important factors that influence program and policy decisions
-Performance Management of Individual Contribution (combining quality of care provided and the amounts);

-Internal Labour Market Policies;

-Diversity Management Procedures focusing in enhancing creativity, innovation and decision-making (promoting the inclusion of individuals into formal programmes and informal networks);

-Advice given by health professionals from other areas;
-Human Capital Management - attract, develop and retain employees' with diverse knowledge bases;

-Control on staff recruitment and transfers in line with health service needs
-Environmental Management System: 1- Provide training; 2- Guarantee effective communication; 3- Motivate employees;

-Salary with a Fixed-Base Component combined with a variable component (performance-related).

The motivation practices were selected according to the same procedure, with a percentage of 82, 5%, corresponding to a total of 24:

-Create transparent communication systems, for free-flow of information with real time accessibility of information (about goals, resources, strategies, and achievements etc.) promoting the participation of user;

-Promote Knowledge Sharing Monetary Reward (from different parts of the organization) and/or Social Reward;

-Training (including acquisition of management skills, technology, and cross-cultural under- standing);

-HRM mechanisms to enhance trust and performance (to deal with control, trust, and conflict issues);

-Proactive Policy of Management of explicit and implicit knowledge developing employees´ competencies in knowledge management and in promoting knowledge sharing;

-Supervisory control for motivating knowledge sharing, incentive programs, and efficient communication platforms (e.g. SAP) and /or to induce cooperation among community members, offering the opportunity of self-coordinated behavior;

-Categorize the Knowledge of the Organization Journals; electronic databases; map relevant domains (e.g. critical organizational studies; disciplinary fields);

-Communities of practice (COPs) and other practice-related social networks (to share thoughts, find solutions, and pursue innovation);

-Network technologies to facilitate interaction among learners for acquisition or sharing of knowledge;

-Web-based technology tool for supported collaborative learning (also may enrich learning performance, individual knowledge construction or group knowledge sharing);

-Identify the availability of knowledge as a facilitator of knowledge transfer and implement practices to increase knowledge availability (e.g employees allocated between units to share routines developed in their original unit with their new unit;

-Managerial actions to promote knowledge sharing through proper environment/corporate culture (at different levels individuals, groups, departments and other);

-Professional virtual communities (PVCs -gather geographically dispersed, like-minded people to form a network for knowledge exchange);

-Promote Knowledge sharing through monitoring mechanisms, reward policies or social planning;

-Mentoring Programs: emphasizing developmental contacts and interpersonal relationships;

-Implement Employment System with an Efficiency Orientation - on-the-job training and senior retention that furthers an approach of bureaucratic regulation and can be associated with the internal labor market archetype;

-Transactive Memory Systems and Common Short-Hand Languages (affect members' ability to create, retain, or transfer knowledge);

-The transfer of routines, tools, and technology across units within the organization;

-High-Commitment Work Systems to built firm-specific knowledge and firm-specific communication channels and values;

-Decision Making and Control Mechanisms (conducive to good communication and effective monitoring of the collaboration need to be developed);

-Leadership involvement to create Work Environments and an Organizational Culture that influence attitudes towards Knowledge Sharing;

-Encourage individuals to contribute to the collective knowledge of the firm and to enhance their own knowledge base through "knowing exactly what they know" programs;

-Efficiency Strategy: Development of expert knowledge of young employees to become specialists in a certain function, exploitative learning mode focused on improving and reconfiguration of successful processes and established routines;

-Experience through Observation Procedures.

Regarding new ideas generation the practices selected by this procedure allow us to identify a total of 27 practices, according to 83%:

-Chief´s Knowledge Officers: strategic perspective that is related with improve customer relations and promoting knowledge management practices;

-Repository knowledge: scientific literature (eg, PubMed, conference proceedings); innovation stage; rehabilitation/treatment technology databases;

-Promote knowledge acquisition mechanisms to acquire, develop and use knowledge (inside and outside the organization);

 -Identify, Collect, and Compile product/service/intervention development relevant information from stakeholders comparing it with internal stakeholders' perspective;

-Adopt and develop a knowledge management agenda aided by a Chief Knowledge Officers (CKOs);

-Six Sigma: socialization promotion through the inclusion of individuals in project teams from across functional, hierarchical, and organizational boundaries (e.g., suppliers and customers), and by the attendance of team meetings;

-Knowledge sourcing, Personal networks, Knowledge networks, Inter-organizational networks, Clusters, R&D;

-Development of knowledge base and promote the of institutionalization of experience;

-Discovery; Invention and Innovation; R&D; Networked knowledge and communities of practice; families and clients;

-Socialization practices demand physical proximity and joint action;

-Promote an orchestrated organizational innovation policy that combine use of technical capability; managerial ability or learning-based organization; overall operation and performance of each ability of organization;

-Externalization practices that support communities of practice at distance;

-KT (Knowledge Translation) process from need to outcome (identifying relevant knowledge flows, repository and networked knowledge, identify key consumers and producers using communities of practice;

-Foste Group "transactive memory systems" to affect group-performance;

-Develop practices that promote group cooperation, or apprenticeship;

-Promote formal (eg, via a set of scores from standardized assessments) and informal (eg, as subjective observations of caregivers, teachers, employers, and family members) knowledge inputs and outputs;

-Value Internal and External Knowledge Outputs - patents, knowledge, employee skills and capabilities, institutional knowledge, experiences around therapeutic protocols or testing methods, knowledge about client preferences and compliance, which is inscribed in relations among clinicians, researchers, and families;

-Promote sourcing relevant knowledge, which is often distributed across organizations and individuals;

-IT and Knowledge management systems integration - organizational processes related to the storage and retrieval of knowledge (and also transfer, creation and application of knowledge);

-Use a task force to tackle a specific problem in the organization;

-Organizational Processes to codify Problem-Solving knowledge;

-Organizational Learning (organizational learning from four angles: 1. Adaptive learning; 2. Hypothetic sharing; 3.Development of knowledge base; 4. Effect of institutionalization of experience);

-Develop routines that lead employees to integrate their individual knowledge into daily activity of organizations;

-People-oriented soft practices for capturing tacit knowledge for intervention success, more analytical focused practices to capture explicit knowledge;

-Talent Management as a core competency of the organization (identifiy strategic human resources);

-Good Communication Channels among different organizational stakeholder groups to facilitate knowledge flow into decision-making;

-Talent Management - focusing on a small segment of the workforce that distinguishes itself by current performance or future potential and develop talent through "Corporate Institute of Personnel and Development (focusing on 'talent pools', internal and external).

In relation to employee competence the same procedure accounted for a total of 16 practices, totalizing 81, 1% of the available practices for this dimension:

-Improve Knowledge Retention through: R&D activities, diversity or breadth of the organization's knowledge base, prior learning experience, shared language, cross-functional interfaces, mental models and problem solving capacity;

- Management of Key Operational Areas: Scheduling management and planning, Cost management; Quality management, Human resources management, Risk management; Knowledge management, Health and safety management, Conflict and dispute management, Ethical management; Stakeholder management; Information technology management, Communication management, Resources management, Financial management, Plant and equipment resources management;

-Leverage the use of information technologies to improve information flow, knowledge sharing and for virtual meetings (Internet B2E portals, e- mail, teleworking for example);

-Competence-based learning (CBL): individual trainings and learning paths can be developed to support the learner's development;

-Developing appropriate learning programs focused on lifelong learning objectives;

-Acquire knowledge regarding research management and engage in interdisciplinary interventions;

- Mentoring and Partner Programs

-Collaboration, which supports individuals and groups who use content and apply their competences to identify, exchange, and create knowledge;

-Synergies between Departments: to avoid duplication of work and to collect knowledge (also helps in benchmarking/staff development activities);

-Develop personal and intervention-specific learning;

-Job rotation;

-Knowledge Retention Procedures through observations, experiences and actions linked with an Information System available to several departments;

-Balance organizational culture, rational goals, open systems (e.g. idea generation, information uptake) and internal processes (e.g. controlling, information management);

-Integrate Competence Management Systems into KM System;

-SAP and other IT means to enhance knowledge retention strategies;

-Evaluations of experience gained.

Chapter V - Framework
5 –Framework

In this chapter there will be developed an health care based framework that relate corresponding KM paradigms with HC six dimensions. This framework is built on the attributes of the six dimensions of HC and on the corresponding KM practices.

This chapter presents the gathering of the six HC dimensions, having per base the survey´s results, with the corresponding KM practices and the interaction between all these variables, finishing with a framework proposition.

There will be made a description of each attribute from the six dimensions of HC, as well as how it is related to the selected KM practices.

The leadership attribute "Coordinator" was selected by participants, a total of 10 references in the survey. According to the literature this attribute related to both Transactional and Transformational leadership (Sun and Anderson, 2012; Yee, Lee, Yeung and Cheng, 2013) since it´s an underlying leadership function. This leadership attribute is envisioned in the literature as one function of the knowledge coordinator, the Chief-Knowledge Officer (CKO). According to DeTienne, Dyer, Hoopes and Harris (2004) one of the main responsibilities of the CKO is linked to one of the selected

practices, "Promote a Knowledge Sharing Culture (Socio-Organizational and Culture as drivers) to maximize return on: tangible and intangible knowledge assets and resources such as the tacit knowledge; competencies; experiences" (selected by 2 survey participants). The same authors argue that "Converting Public Relation and Communication Knowledge and Expertise into Effective Tactics and Strategies", another selected KM practice is of the responsibility of this professional. The leader as a coordinator has to manage the internal and external flux of communication in the organization, aiming to "Create Social robust Knowledge in Interaction with Society and Stakeholders (Organizational Initiatives of Social Responsibility)" (selected by three survey respondents) according to Chen (2011), and Phillips (2005).
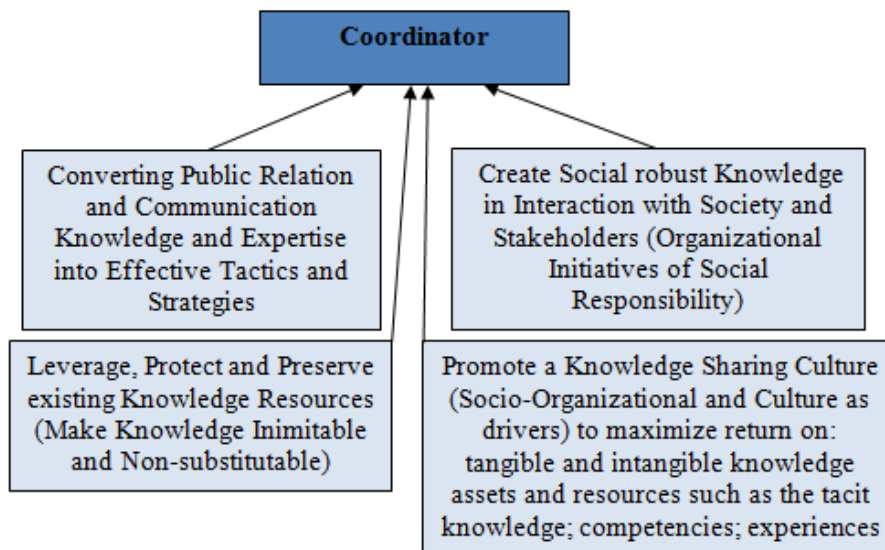
Figure 25 – Leadership Attribute "Coordinator" link with KM Practices

According to Lakshman (2011) part of the coordination of knowledge of modern organizations is about "Leverage, Protect and Preserve existing Knowledge Resources (Make Knowledge Inimitable and Non-substitutable)", this KM practice was selected by 4 survey participants). Many authors like Raub and Von Wittich (2004); Taylor, Cocklin, Brown, and Evered (2011); Awazu and Desouza (2004); argue that "Maintained ongoing ties with Academia" (a KM practice selected by 5 survey participants) is essential for leaders to develop their skills, as well as for the renewal of organizational knowledge. Similarly, Waldman, Balthazard and Peterson (2011) stress the importance of the above mentioned practice and the alignment between the organizations top levels to foster KM

initiatives, translated in the practice of "Administration and Management Alliance to conduct KM efforts" (selected by seven survey participants) for a matter of implementation success. Another function that modern leaders have is to coordinate socialization aspects of KM with IT means in order to effectively manage knowledge. Many authors, as Phillips (2005), state that IT means assist leaders in promoting knowledge retention and knowledge sharing, namely through practices as "Unit Based File Coordinator (Implement and coordinate a standardized filing system, regular quality audits and standard of entries, who can preserve paper-based records, and ensure that records are complying with Data Protection and the access needs)", a KM practice referred by two survey participants. Regarding knowledge retention, the literature stresses the relation between leadership style and retention of valuable knowledge in the organization, under the form of employee retention and under the re-use of past experience, as well as the role of CKO´s as coordinators of KM efforts like "Promote New Application of Previous Knowledge (DeTienne, Dyer and Hoopes, 2004; Asoh, Belardo and Neilson, 2002).This KM practice was selected by three participants of the survey.
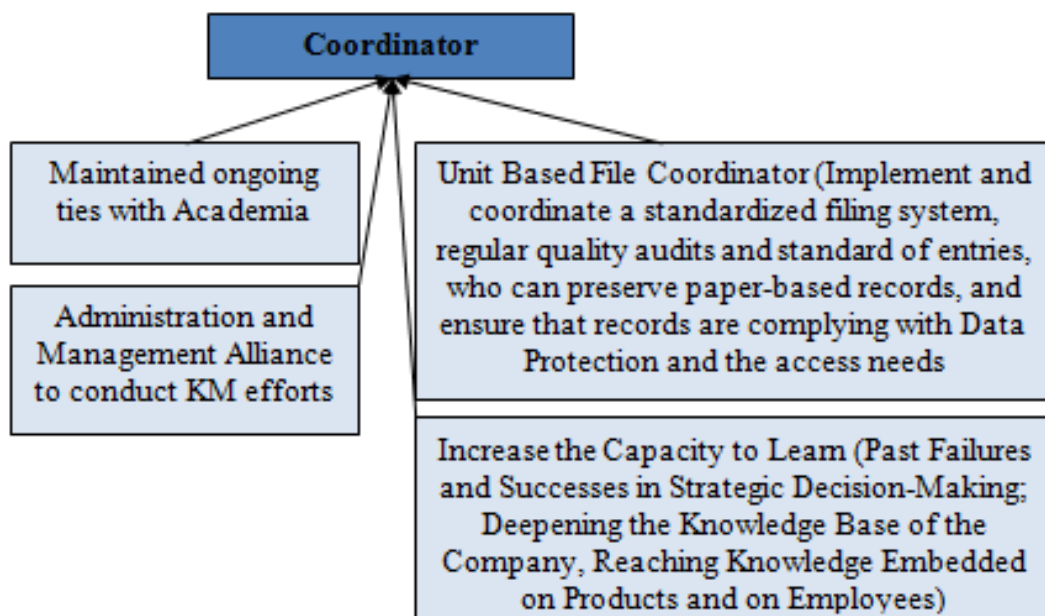
Figure 26 – Leadership Attribute Coordinator link with KM Practices

Another KM practice that is connected to this leadership attribute is "Network Resource Sharing" (selected by three participants) due to the fact that this is a technological extension of the role of leaders' coordination, important in knowledge sharing processes. The author´s Menkhoff and Loh (2006) and Barrionuevo et al.(2012) the importance of "Increase the Capacity to Learn (Past Failures and Successes in Strategic Decision-Making; Deepening the Knowledge Base of the Company, Reaching Knowledge Embedded on Products and on Employees)" coordinating this KM efforts with the pursue of an innovation strategy.

This practice was selected by three participants. Another complementary KM practice, "Knowledge Repositories" (referred 5 times by survey participants) was widely mentioned in the literature (Eppler and Gallen, 2000; Salo 2009) as a measure taken by leaders to close knowledge gaps and foster organizational learning, coordinating exploration and exploitation. Additionally, the previously mentioned KM practice allows "Systematic Reviews or Lessons learned sessions" (selected by three participants) which is a complementary organizational learning mechanism essential for maintaining a sustainable competitive advantage (Killen, Drouin and Petit, 2012; Lindahl et al., 2012).
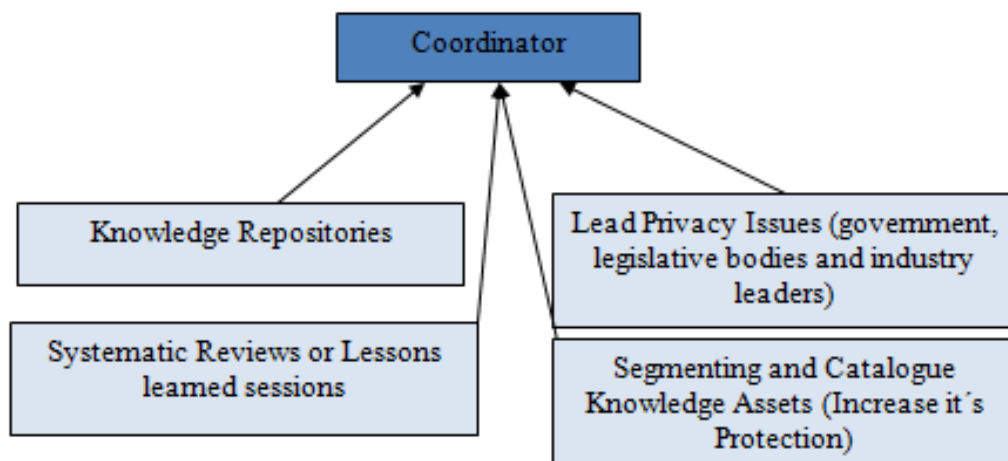
Figure 27 – Leadership Attribute Coordinator link with KM Practices

Another km practice related to this attribute is "Lead Privacy Issues (government, legislative bodies and industry leaders)". This km practice, selected by 3 respondents, is associated with leaders public strength-based authenticity, leadership clear goal setting, leadership contribution to internal organizational identity, employee professional identity

shaping, authentic leadership, leadership feedback, the strategic role of CPO´s (Chief Privacy Officers) jointly with IT and IT Specialists in treating customers, the influence of CKO´s and CLO´s towards knowledge assets, the role of leaders in knowledge alliances and partnerships related to knowledge protection (Diddams, Chang, 2012; Awazu and Desouza, 2004)

Still regarding the same attribute, the km practice "Segmenting and Catalogue Knowledge Assets (Increase it´s Protection)" selected by 3 survey respondents, envisions to organize knowledge in databases to promote its usability, facilitate learning to leaders and employees, avoid knowledge duplication, acquire and store rare knowledge, develop access protocols of knowledge accessibility, enhanced leadership orientation of knowledge utilization, facilitate knowledge transfer accorss teams, manage knowledge and employee diversity, increase the ability to codify knowledge, team leader assistance to knowledge coordination and develop knowledge process capabilities (Walker et al., 2011; Awazu and Desouza, 2004; Morgeson et al., 2009; Dyck et al., 2005; Fernandez, Chob and Perry, 2010; Killen et al., 2012; Von Lubitz et al., 2008; Eppler and Gallen, 2000; Chi, Lan and Dorjgotov, 2012).

Another km practice is "Promote New Application of Previous Knowledge", selected by 3 respondents. This km practice is associated with leveraging IT means to knowledge re-utilization, CKO´s strategic role, benchmarking, and leaders' role in promoting previous research knowledge utilization (Raub and Von Wittich, 2004; Supic et al., 2010; Morales et al., 2012).

The km practice "Work-Based Learning and Capability Development through Specialist Training", selected by 6 respondents, is related with CIO´s IT management training, prior knowledge acquired and retained, knowledge embedded in repositories, individuals, routines and memory systems, facilitate a climate of understanding and trust to specialists insights, equip managers with tools and skills to lead and manage effectively identifying leadership potential, develop transformational trainings of leaders` relational skills or hire them externally, provide access to communities of practice or create knowledge debate groups, alternate internal with external short duration courses (Argote, Spektor, 2011; Chen and Wu, 2011; Phillips, 2005; Cummings et al., 2010; Asoh et al., 2002).

There were 3 survey respondents selecting the km practice "Network Resource Sharing". This km practice is related with the availability and creation of knowledge-based resources, knowledge sharing of explicit, structured, or documented lessons learned,

shared leadership, mutual learning, capability recognition and development through the creation of learning systems, ongoing reassessment of best practices (through programming and deprogramming, reinforcement and exploration, learning and unlearning, and construction and deconstruction), increasing of civic behaviors, supplier integration, development of strategic alliances for the purpose of learning, developing forums of interaction, job rotation and personnel transfers, ongoing training, organizational commitment, use of electronic foruns and employee's learning goal orientation and performance goal orientation (Killen et al., 2012; Fernandez, Chob and Perry, 2010; Benson and Blackman, 2011; Asoh et al., 2002; Sun and Anderson, 2012; Cavazos, Patel and Wales, 2012; Lakshman,2007; Sharman et al., 2012; Yee, Lee, Yeung and Cheng, 2013; Gerson, 2007).

The last km practice is"Mobilize expert knowledge within the organization", selected by 3 respondents.
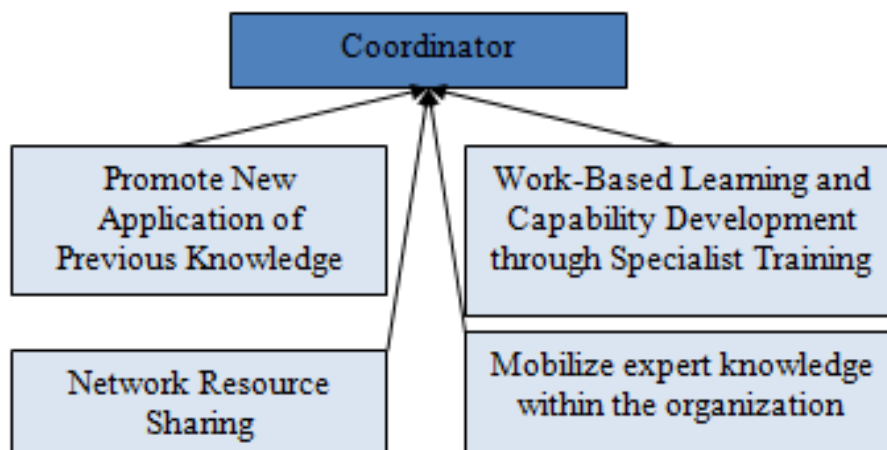
Figure 28 – Leadership Attribute Coordinator link with KM Practices

The dissemination of knowledge (Liu, Chiu, Chin and Lin, 2010; Littleton, 2009; Sallán et al. 2010; Lakshman, 2007; Hansson and Mønsted, 2007; Barrionuevo et al., 2012; Hernandez et al., 2011; Sharif and Irani, 2012) is one of the most important KM practices within the organization is one of the most important aspects in nowadays organizations, that need to leverage knowledge tools to systematize the effectiveness of this process. Additionally organizations must control the flux of disseminated information, therefore many organizations resort to a "Knowledge Dissemination Measurement Framework"

(selected 3 times by participants) in order to monitor the amount and frequency of transferable knowledge. Similarly, leaders are more and more coordinators of knowledge, assuring the mobilization of knowledge and expertise according to the necessities of the organization. This KM practice is associated to the leadership attribute Coordinator 3 times by respondents. In order to coordinate the dissemination of knowledge and suppress knowledge gaps of the organization leaders must ensure segment and Catalogue Knowledge Assets, increase it´s protection in order to facilitate knowledge dissemination, retention and protection (3 participants selected this km practice). More and more the coordination role of leaders demands them to "Lead and Promote the Knowledge Management Agenda" (selected by 5 participants) in order to coordinate the five Km process and their effectiveness in the organization (Awazu and Desouza, 2004; Thomas and Mengel, 2008; Söderlund and Maylor, 2012; Raub and Von Wittich, 2004; Menkhoff and Loh, 2006; DeTienne et al.2004). The attribute "Coordinator" was the one which had the higher number of connection to km practices with a total 18 of km practices.
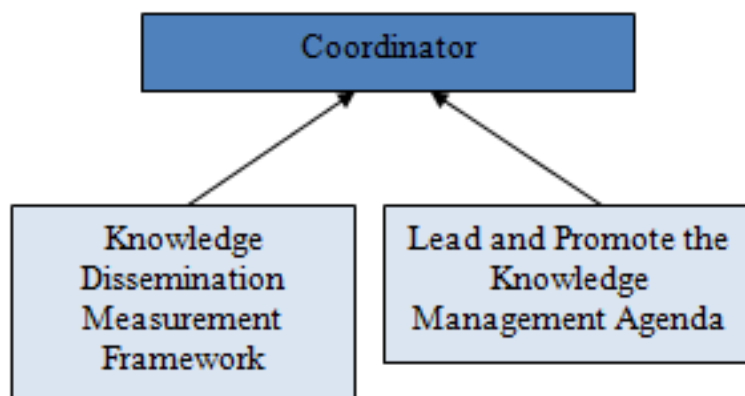
Figure 29 – Leadership Attribute Coordinator link with KM Practices

The second leadership attribute is "Transactional" (selected 8 times by survey participants) is related to five km practices. The "Transactional" attribute is related to "Process Teams, Taskforces, Management Teams and Advisory Teams", since it is the task oriented leadership style that privileges goal accomplishment (Yee, Lee, Yeung and Cheng, 2013; Walker et al., 2011; Cummings et al., 2010 and Hernandez et al. 2011), The above mentioned km practice, selected 7 times by participants, enhances the answer agility of the organization and knowledge utilization. In parallel, organizations need to foster procedures that "Promote Efficiency, Adaptability and Innovativeness" (selected five times in the survey) in order to increase competitiveness and a competitive advantage

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(Rosing, Frese and Bausch, 2011; Sahadath, 2010; Fitzgerald, 2010; VanVactor, 2012; Sahadath, 2010; Cascio, 2010).

Another km practice related to the attribute "Transactional" is "Programs to increase focus in Monitoring Quality Management" (selected 8 times by participants) that aims to increase the delivered value as well as the profits of the organization (Yee; Lee; Yeung, and Cheng 2013; Supic et al.2010).
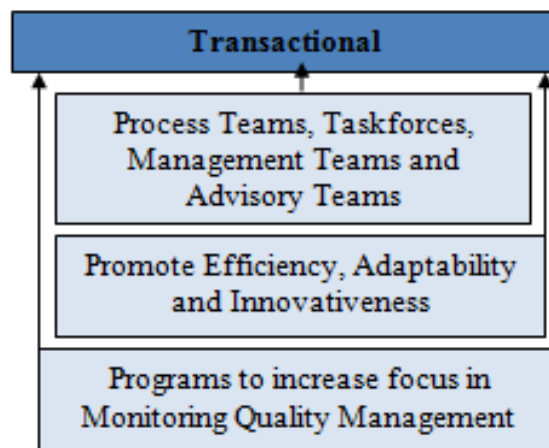
Figure 30 – Leadership Attribute "Transactional" link with KM Practices

The literature establishes the higher potential of generating value of tacit knowledge, emphasizing the importance of "Embedding Knowledge into the Work Practices and Processes" (Lubitz, Beakley, and Patricelli, 2008; Phillips, 2005; Awazu and Desouza, 2004), a practice chosen by 6 survey participants. Equally important for organizations nowadays is to "Retrieve Knowledge from various sources interlocking it with data" (a practice selected by 3 participants) in order to improve leaders´ decision making (Morgeson, DeRue and Karam, 2009; Sukowski and Eppler, 2000; Lakshman, 2005; Zhang et al., 2012; Sharman et al. 2011). Another km practice associated with the leadership attribute Transactional is "Strategic Management and Leadership Performance Implementation Model" (Chen and Wu, 2011; Söderlund, Maylor, 2012; Pinel and Pecos, 2012; Chen and Wu, 2011), this km practice aims to manage the knowledge that generates more value to the organization, jointly with the assessment of leaders´ performance as managers of knowledge utilization. This practice was selected by 9 participants. The most frequently selected practice by survey participants, selected by 10 participants, is "Performance Evaluation linked to IC Retention" (Walker and Walker,

2011; Cummings et al., 2010; Bhatnagar, 2007; Cooke, 2011), which is a km management practice aimed for quality orientation. Another representative km practice of the previously mentioned is "Improve Team´s Knowledge Processes (team matrix, the expert web, the project compass, visual protocolling, or lessons learned repositories)", selected by 4 survey participants, which aims to utilize, distribute and develop knowledge (Yee et al.,2013; Hansson and Mønsted, 2007; Asoh, 2002) Developing Protocols for Internal Access to Knowledge Assets of the Organization (Sharpening Up of Internal Access Procedure).
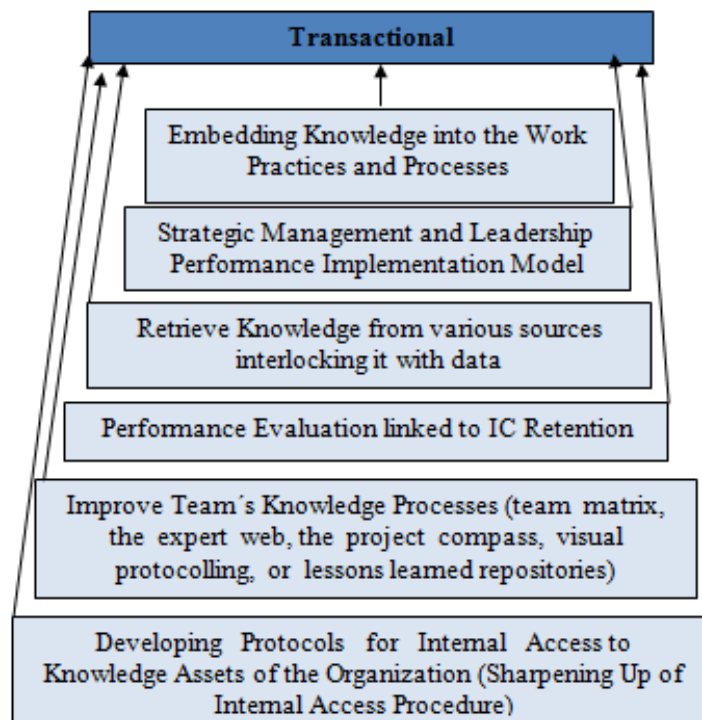
Figure 31 – Leadership Attribute "Transactional" link with KM Practices

The second most representative leadership attribute, selected 18 times by respondents, is "Maintains Relationships". The literature conveys the importance of a continuous interaction between leaders and employees (Fairhurst and Uhl-Bien, 2012; Hernandez et al., 2011; DeChurch, et al., 2011; Markham, 2012; Fernandez et al., 2010) in order to ensure an effective performance in organizations. This leadership attribute is related to 3 km practices, which are "Transmit to employees that they are the creators and or transferors of knowledge and users centering their attention on KM efforts (getting the right knowledge to the right people)"; "Mutual Briefings and Updates" and "Development of Ethical Knowledge (According to the Law)". Regarding "Transmit to employees that they are the creators and or transferors of knowledge and users centering

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their attention on KM efforts (getting the right knowledge to the right people)", selected by two respondents, the literature stresses the extreme importance of leaders to motivate and grant support from employees in the km efforts of the organization (DeTienne et al., 2004; Sahadath, 2010; Raub and Von Wittich, 2004). The second km practice that is connected to this attribute is "Mutual Briefings and Updates", selected by four respondents. This km practice is referred as an ongoing flux of communication that is both supported by technological means and social interaction between leaders and followers in the accomplishing of a given task. The third km practice, validated by 8 respondents, is "Development of Ethical Knowledge (According to the Law)", aims at developing the role of responsibility of leaders in developing knowledge in order to grant competitiveness without violating the law (Jones, 2005; Wright and Quick, 2011; Caldwell at al., 2011; Diddams and Chang, 2012).
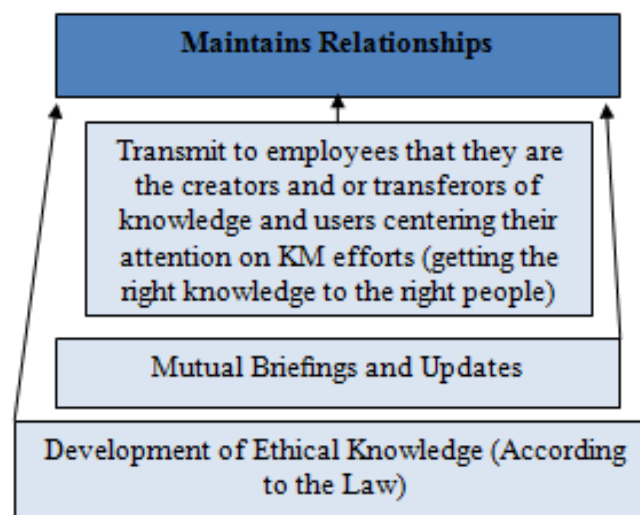
Figure 32 – Leadership Attribute "Maintains Relationships" link with KM Practices

The leadership attribute "Motivational" was the most representative within the leadership dimension, selected by 19 respondents, and it´s associated with the ability of leaders to elicit action and satisfaction in followers. (Yee et al., 2013; Kirkman and Gibson, 2004; Sun and Anderson, 2012; Andrews et al., 2012; Johansson, 2010). Another relevant practice, selected 4 times by participants, is "Enable Exchange of Tacit Know-How, Skills, and Abilities". The literature establishes a correlation between knowledge sharing, motivation and commitment in organizations (Cascio et al., 2010; Simosi and Xenikou,

2010; Creedy et al., 2011; Furunes et al., 2011; Carmeli et al. 2011; Huang et al., 2011; Shamir, 2011; Benson and Blackman, 2011; Bellou, 2011; Ensari 2011; Giritli, 2013).

Another km practice that reinforces the role of motivator of the leader, selected by three respondents, is "Win Knowledge Resources through contacts with the community (e.g. conferences; education; industry networking; collaborative networks of researchers)". The literature focuses the importance of internal and external knowledge acquisition through several sources, as well as the necessity of development of employees in order to perform better. The km practice "Promote the contribution of long-term employees to provide Innovative Ideas and implement them (Extensive Experience and Deep Knowledge)", selected four times by respondents, enhances the importance of leaders to retain the most valuable employees in the organization and use their insights to develop innovation (Cocklin, 2011; Lord and Shondrick, 2011; Dyck et al. 2005; Cavazos et al., 2012; Yeung et al., 2013).
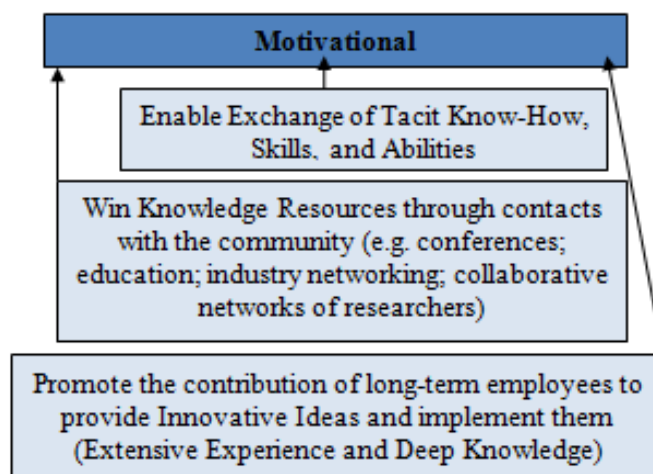
Figure 33 – Leadership Attribute "Motivational" link with KM Practices

Another important leadership attribute, selected 17 times by respondents, is "Informal Leadership". This attribute is increasingly important in nowadays organizations due to the shared decision-making perspective according to which a decision is taken according to the person who possesses more knowledge of a given scenario or task (Nienaber, 2010; Zhang, 2013; Chen, Cheng and Wu, 2011). The first km practice associated with this attribute is "Leaders collaboration across departments of the organization", selected by three respondents, fosters knowledge sharing and knowledge acquisition between the departments of the organization (Sun and Anderson, 2012; Fernandez et al., 2012; Fitzgerald, 2013; Cummings, 2010). The following km practice, "Promote interaction and

communication in social settings to drive knowledge sharing (synthetization of individual knowledge)", was selected by 3 respondents, expresses the importance of socialization practices that lead employees to share their personal knowledge to others under the explicit form. The third practice that was associated to the leadership attribute informal leadership, "Professional Circles and Non-formal meetings (using a social setting outside the company to discuss professional topics are approached to promote Creativity and Innovation)", was selected by 5 respondents. This km practice is also related with the importance of social practices to acquire and to share knowledge among organizational members.
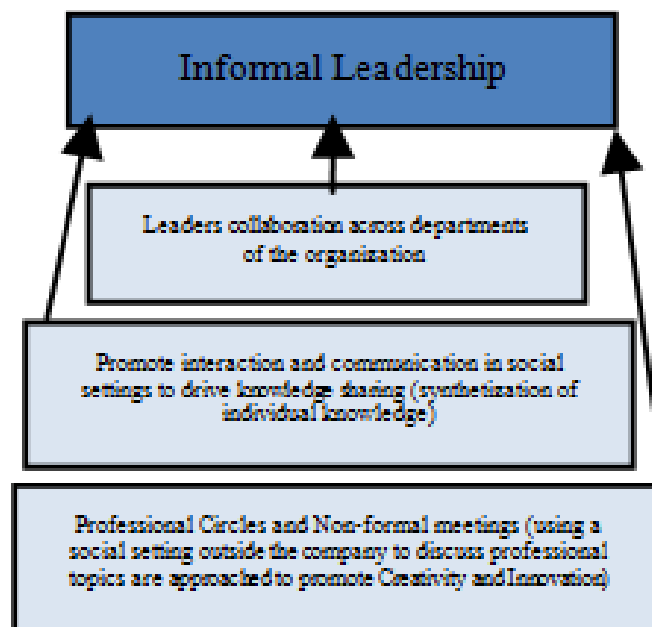
Figure 34 – Leadership Attribute "Informal Leadership" link with KM Practices

The attribute "Formal Leadership", selected by 15 respondents, is related with the formal structures and procedures of the organization, that condensate collective vision and behaviors. The km practice "Institutionalizing Knowledge Sharing Incentives", selected by 3 respondents, was pointed out as one of the most effective practices to foster knowledge sharing in organizations. Another important km practice, "Internal Journals (enable employees to share their ideas and experiences across the organization)", selected by four respondents, is one of the formal km initiatives that emanates from the formal communicational structure of the organization. Also related to this leadership attribute, "Structural Closure: important in interpersonal networks, to foster shared behavioral norms and knowledge-sharing routines, curbing opportunism in collaborative networks,

with higher innovative outputs", selected by two respondents, this km practice is complementary to the previously mentioned, as regulator of knowledge distribution and aimed at enhancing retention and innovation. Another km practice associated with formal leadership is "Provide knowledge regarding stakeholders´ goals in relation to team´s work". This km practice, selected by 3 respondents, is aimed at managing the internal and external flow of communication. Forming "Strategic Alliances for Learning (developing forums with different groups; job rotation; personnel transfers; ongoing training and development programs; sharing knowledge through written documents; joint ventures for knowledge acquisition purposes)", selected by four respondents, is a valuable joint km effort between organizations struggling the same challenges (Benson and Blackman, 2011; Lakshman, 2011; DeChurch, 2010).
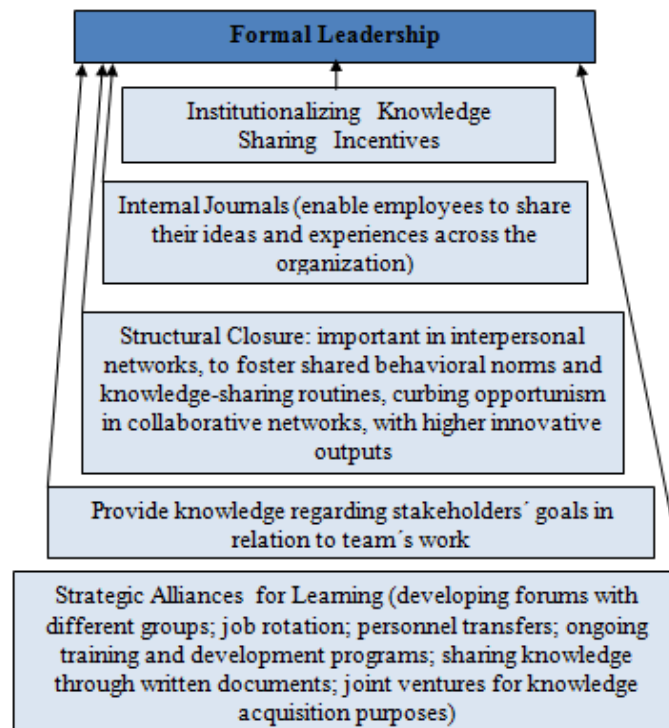
Figure 35 – Leadership Attribute "Formal Leadership" link with KM Practices

The seventh leadership attribute is "Attentive to followers Needs", with 8 respondent references. This attribute refers to the necessity of self-efficacy and development that leaders must be able to provide to followers. This attribute was related to the km practice "Organizational Culture that fosters Cooperative Involvement (Trust linked with Incentives; Combine technology with the organizational culture conducive to knowledge

creation and sharing)", that was selected by 3 respondents (Giritli, Yazıcı, Oraz and Acar, 2013; Markham, 2012; Morales et al. 2012; Simosi and Xenikou, 2010; Dyck et al., 2005).
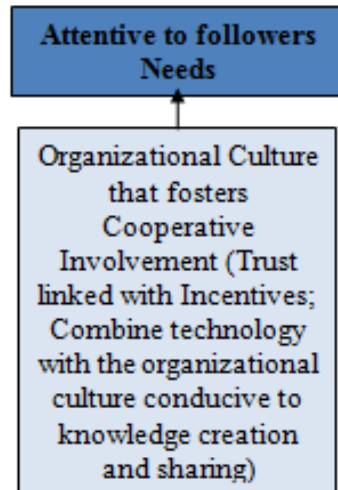
Figure 36 – Leadership Attribute "Attentive to Followers Needs" link with KM Practices

The attribute "Transformational", selected by 17 respondents, was related to organizational effectiveness, change and innovation in the literature (Chi, Lan and Drojgotov, 2012; Morales et al., 2012; Jia et al., 2013; Huang et al.,2011; Yee et al., 2013; DeChurch, 2010). There were 3 km practices related to this leadership attribute: "Mentoring" (selected by 5 respondents); "Training" (selected by 3 respondents); "Benchmark (Role Model)" (selected by 4 respondents).
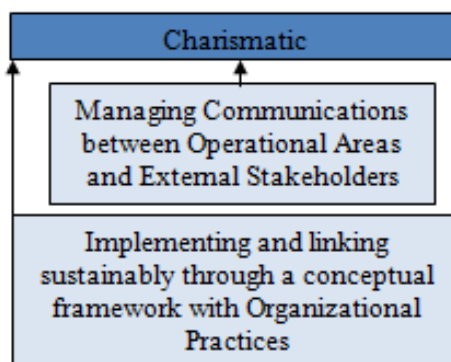
Figure 37 – Leadership Attribute Charismatic link with KM Practices

The attribute "Charismatic", selected by 10 respondents, is mainly associated with long term influence in eliciting follower behaviors to pursue an objective or change (Caldwell et al., 2011; Shamir, 2011; Waldman et al., 2011; Perry et al., 2010; Lord and Shondrick, 2011). This attribute is related to 2 km practices: "Managing Communications between Operational Areas and External Stakeholders" (selected by 3 respondents); "Implementing and linking sustainably through a conceptual framework with Organizational Practices" (selected by 3 respondents). The firstly mentioned practice aims at managing communication and internal knowledge and external knowledge (Sahadath, 2010; Hansson, Mønsted; 2007; Irani and Sharif, 2012; Supic et al., 2010; Eppler and Sukowski, 2000; Phillips, 2005; Benson and Blackman, 2011). The second km practice is related with change management, being charismatic leaders identified as efficient in helping organizations to cope with change (Thomas and Mengel, 2008; Fitzgerald et al., 2013).

The respondents selected a total of 16 Creativity attributes and a total of 22 km practices that are related to them.

The attribute "Diversity" (selected by 13 respondents) is related to diverse knowledge and innovation (Rosa et al., 2008; Gray et al., 2011; Lommelen et al., 2012; Cappellin, 2007). The km practice "Heterogeneous Team Assemblance (knowledge and information diversity)" (selected by 12 respondents) is found to contribute to increased learning, novel ideas and larger network contacts (Stocker et al., 2008; Martins and Shalley, 2011; Burg et al., 2012; Argote *et al.*; Medina *et al.*, 2011).
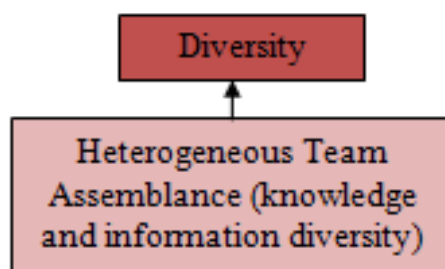
Figure 38 –Creativity Attribute "Diversity" link with KM Practices

Another attribute, "Advantage" (selected by 3 respondents), is mainly associated with increased competitiveness regarding competitors and gain of profit for the company which owns it (Liao et al., 2012; Anuar and Ng, 2011; Phipps and Prieto, 2012). This creativity attribute is related to one km practice, "Knowledge Management Systems to

mobilize knowledge and enhance decision-making", related to knowledge sharing and allocation of experts of the organization according to needs (Defillippi et al., 2007; Kehoe, 2010; Cappellin, 2007).
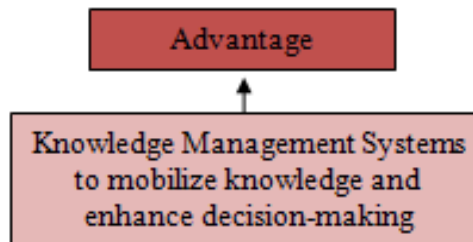
Figure 39 –Creativity Attribute Advantage link with KM Practices

The attribute "Experience", selected by 15 respondents, is mainly associated with academic and professional knowledge, or with knowledge retained in employees that contribute to the value creation process of the organization through knowledge utilization (Ojiako et al., 2011; London and Siva, 2011; Majchrzak et al. 2004; Yang, 2011; Han, Chiang and Chang; 2010; Calantone et al., 2002; Coelho et al., 2011; Teerajetgul et al., 2009). This creativity attribute is related to one km practice "Experience can be acquired directly by the focal organizational unit or indirectly from other units; Executives with long experience in an industry bring detailed knowledge about how that industry operates", that contributes to knowledge sharing, innovation, learning and performance enhancement (Song et al., 2006; Unger, 2012; Calantone et al.; 2002; Martins and Shalley, 2011; Sung and Choi, 2012).
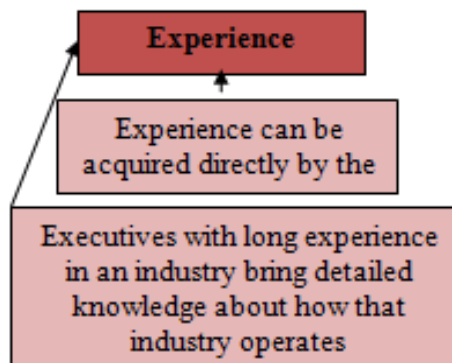
Figure 40 –Creativity Attribute Experience link with KM Practices

Another relevant attribute in the survey results, selected by 3 respondents, is "Performative" (selected by 3 respondents), is correlated with job satisfaction, new knowledge and innovation (Wood and Menezes, 2011; Lee and Choi, 2003; Medina et al.,2011; Chen and Yeh, 2008; DiLiello et al., 2011; Dul and Ceylan, 2011). This creativity is assisted by a km practice "Promote the utilization of transactive memory systems; shared mental models; prior experience (to enhance group performance)", selected by 9 survey respondents. This km practice is aimed at retaining knowledge in the organization to provide support to knowledge utilization (Tian and Nakamori, 2006; Marsh and Stock, 2006; Martins and Shalley, 2011; Loke, 2012; Coelho et al, .2012)
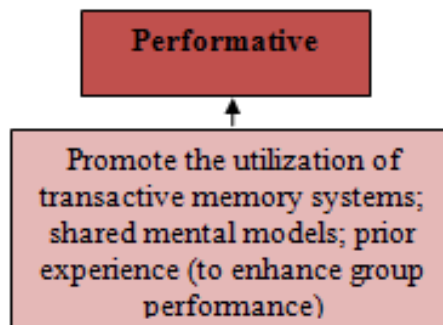
Figure 41 –Creativity Attribute Performative link with KM Practices

The attribute "Interaction (selected by 5 respondents)", is related to explicit and tacit knowledge exchange, transformation and innovation increase (Nakamori et al., 2006; Jiang, Wang and Zhao, 2013; Chen and Yeh, 2008; Schmitt et al., 2012). This attribute is related to the km practice "Team Members Knowledge Contribution: 1. Reward team members' contribution; 2. Create a trust atmosphere to share knowledge; 3.management support to appropriate communication channels (make team members feel their contributions are appreciated)", selected by 10 respondents. This km practice envisions to foster knowledge sharing, knowledge retention, change culture and commitment as a strategic direction of the organization (D'Netto et al., Tansley et al., 2013; Litchfield et al., 2013; Song et al., 2007; Balogun and Jenkins, 2003).
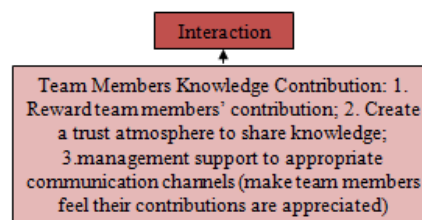
Figure 42 –Creativity Attribute "Interaction" link with KM Practices

Regarding the attribute "Collective", selected by 5 respondents, the literature associates it with group learning, knowledge creation and knowledge utilization (Cappellin, 2007; Söderlund, 2010; Stocker, 2008; Choo, Linderman and Schroeder, 2007; Loke et al. 2012; Andersen and Kragh, 2013). The km practice correlated to this attribute is "Network building and Systematic Dissemination of ideas; Professional Networks; Foster Team Demography Diversity" (Leiponen and Helfat, 2010; Howard et al., 2011; Rosa et al., 2008). This km practice was selected by 9 respondents.
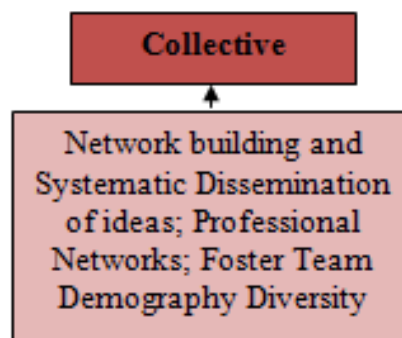
Figure 43 –Creativity Attribute Collective link with KM Practices

The creativity attribute "Group" (selected by 13 respondents) is related with collaboration on knowledge development, common behavior norms, collective resources, knowledge utilization and knowledge dissemination; (Schmitt et al. 2012; Skok and Kalmanovitch 2005; song et al., 2007 and Unger et al., 2012). The km practice "Identification of new market opportunities through the contribution of employees with valuable knowledge and skills (which are also most flexible in acquiring new skills) to impact innovation" (Coelho et al; 2011; Burg et al., 2012; Shen et al., 2010; Lin and Huan, 2010; Lee, and Lee, 2010; Rosa et al. 2008; Linderman et al. 2010). This km practice was selected by 7 survey respondents.
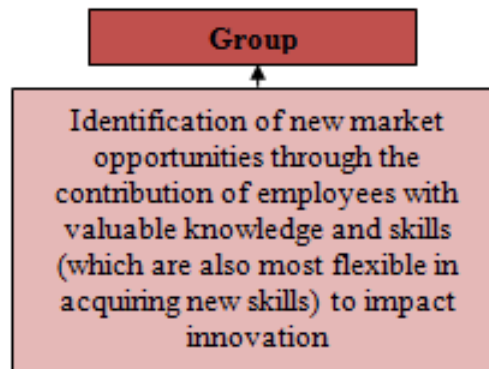
Figure 44 –Creativity Attribute Group link with KM Practices

The attribute "Ideas" (selected by 10 respondents) is related with the collection of ideas, contribution to a common task, accept new ideas and implementation (Litchfield et al, 2010; Berman and Kim, 2010; Abrahams, 2009; Calantone et al., 2002). The km practice "Team learning (cross-fertilization of team members and flow of ideas within the team)" is related with different skills and educational backgrounds combined, implement routines and backgrounds (Andersen and Kragh, 2013; Sung and Choi, 2012; Jiang, Wang and Zhao, 2013). This km practice was selected by 10 respondents.
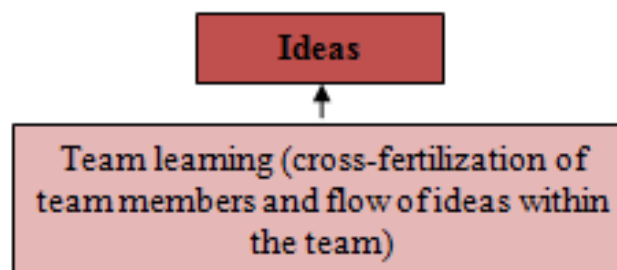
Figure 45 –Creativity Attribute "Ideas" link with KM Practices

The creativity attribute "Learn", selected by 9 respondents, is related with the memory of success and failure of the organization, the culture of the organization, knowledge sharing and group learning (Deishin and Van den Steen, 2006; Teerajetgul et al., 2009; Teerajetgul et al., 2009; Nakamori *et al.,* 2006; Balogun and Jenkins, 2003). This attribute is related to a km practice "Organizational Learning corporate culture that determines values, beliefs, work systems, encourage learning and knowledge sharing guiding change and innovation; Vicarious Learning: Learn indirectly from the experience of other units as well as directly from their own experience". This practice, selected by 11 respondents, aims at providing a strategic route for organizations, new knowledge

creation, conduct change and acquiring experience (Calantone et al., 2002; Liao *et al.*, 2013; Skok and Kalmanovitch, 2005; Yang, 2011).
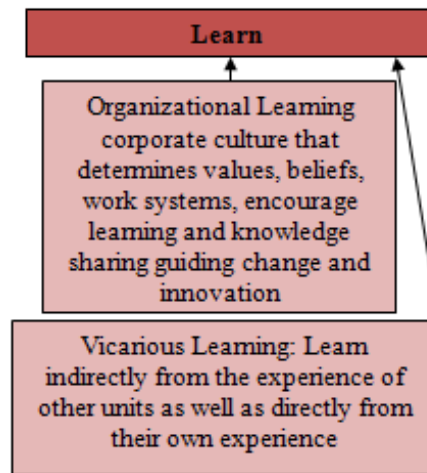
Figure 46 –Creativity Attribute "Learn" link with KM Practices

The creativity attribute "New", selected by 14 respondents, is related with new knowledge, solutions for problems, services and products (Berman and Kim, 2010; Anuar and Ng; Marsh and Stock, 2006; Cray, 2006; Unger et al., 2012; Ojiako et al., 2011; Boeker and Karichalil, 2002). The km practice associated to this attribute is "Sources of External Knowledge to use in new product development: Suppliers, Customers, Consultants, Benchmarking, Reverse Engineering, Patent Applications, Scientific and Trade Publications, and Conferences". This km practice, selected by 8 participants, meants to develop knowledge, foster innovation, acquire external skills and increase performance (Johnston, Paladino, 2007; Nakamori et al., 2006; Wood and Menezes, 2011; Donaldson et al., 2013).

Figure 47 –Creativity Attribute "New" link with KM Practices

The attribute "Capability" (selected by 3 respondents) is related with innovation, knowledge development, collective capability, individual capability, knowledge utilization and learning (Calantoe et al., 2002; Marsh and Stock, 2006; Ortiz et al., 2009; London and Siva, 2011; Liao et al., 2013). This attribute is related to two km practices, "Collective problem-solving processes" (selected by 11 participants) and "Management education training (help employees gain the proper knowledge and skills needed to meet the environmental challenges, support of organizational growth and advancement, through forums for the communication of organizational strategies, new values, tools, and work performance improvement)" (selected by 9 participants). Regarding"Collective problem-solving processes", this km practice is related to valuable skills, business solutions and creative problem-solving (Sung and Choi, 2012; Song et al., 2007; Jiang et al., 2013).
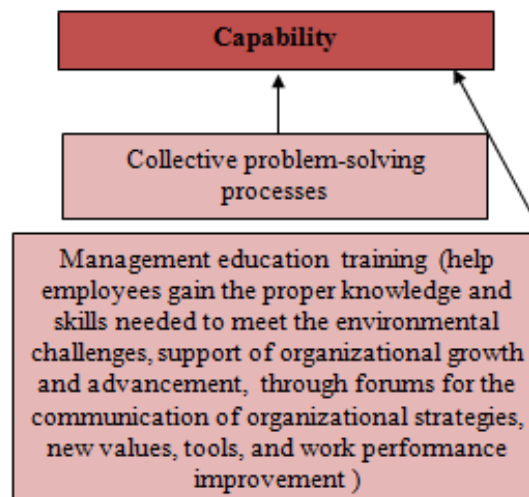
Figure 48 –Creativity Attribute "Capability" link with KM Practices

Regarding the attribute "Innovation" (selected by 12 respondents) it is associated to team diversity literature, increased performance, shared experience, capability to innovate, learning, interaction and leadership support and market needs (Johnston and Paladino,2007; Majchrzak et al., 2004; Chen and Yeh,2008; Defillippi et al., 2007; Andersen and Kragh,2013; Berman and Kim, 2010; Linderman et al., 2007). This attribute was related to two km practices which are "Mechanisms to assist and enable the management of knowledge and innovation to foster creativity; Balance HR Practices regarding Exploration and Exploitation", selected by 14 survey participants, and "Knowledge Development; Enhancing Quality Performance Procedures: Training; Small Group Problem Solving; Employee Suggestion; Cross-functional Interventions", selected

by 12 respondents. Regarding the first km practice, it aims at directing a quality driven strategy, enhancing product quality, learning and quality improvement (Loke et al., 2012; Ng. and Anuar, 2011; Schmitt et al., 2012; Coelho et al. 2011; Argote and Spektor, 2009).
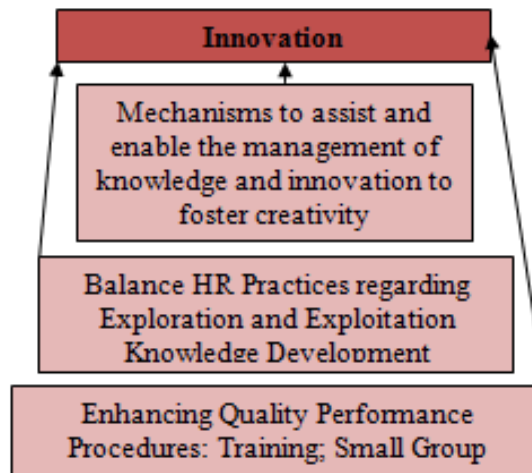
Figure 49 –Creativity Attribute Innovation link with KM Practices

Regarding the attribute "Thinking (styles/skills/original/new)" (selected by 3 respondents) it is related with personality, different thinking styles and different management styles (Dul and Ceylan, 2011; Zhu and Zhang, 2011; Lee and Lee, 2010; Schmitt *et al.*, 2012; Phipps and Prieto, 2012; Howard *et al.*, 2011; Ojiako *et al,* 2011; and Lee and Choi, 2003; Boeker and Karichalil, 2002; Phipps et al., 2012; Berman and Kim, 2010 and Sung and Choi, 2012). This km practice "Acquire Knowledge from the external relationships (by the interactions with external organizations – the better the capabilities of thinking and product differentiation improve)" is related to knowledge acquisition, render knowledge tacit, networks, customers and competitors (Phipps et. al, 2012; Cappellin, 2007; Johnston and Paladino, 2007; Loke et al. 2007; Balogun and Jenkins, 2003).
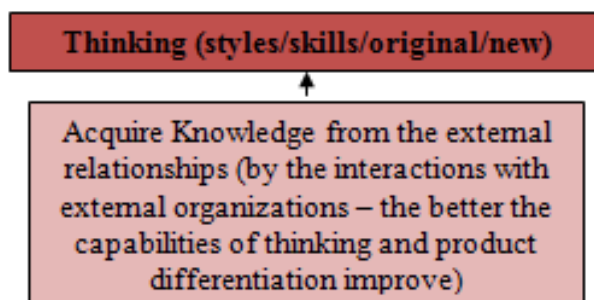
Figure 50 –Creativity Attribute "Thinking (styles/original/new)" link with KM Practices

Regarding the attribute "Workplace" (selected by 2 respondents) it is related to long-term innovation, creativity encouragement and knowledge integration (DiLiello et al., 2011; Berman and Kim, 2010; Lee and Lee, 2010 and Dul and Ceylan, 2011). This attribute is related to "Create and Locate Organizational Knowledge; Action Learning Methods (small groups; learning set; set advisers, a problem/task focus, outcomes focusing on real time action, opportunity for reflection for all learners)".
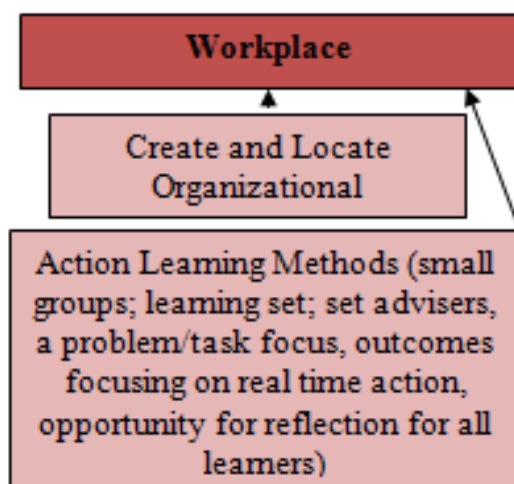
Figure 51 –Creativity Attribute "Workplace" link with KM Practices

The attribute "Change", selected by 3 respondents, is related to adaptative capabilities, cognitive changes, experimentation, manage change (Cappellin, 2007; Linderman, 2007; Steen et al., 2007; Wood and Menezes, 2011; Donaldson et al., 2013; Cray, 2009). This attribute is related to one km practice "Collaborative Work to increase creativity (pooling together and integrate effectively different perspectives, knowledge, skills, and abilities on a task)", selected by seven respondents, has the purpose of allowing the integration of

explicit and tacit knowledge, skill variety, problem-solving, social and different perspectives (Martins and Shalley,2011; Yang,2011; Linderman et al., 2007; Yang, 2011; Yeh, Yeh and Chen, 2012; Boeker and Karichalil,2012).
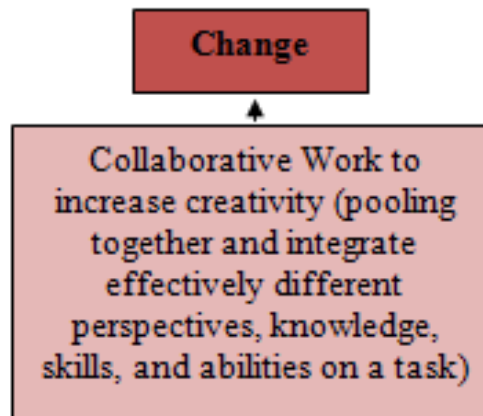

Figure 52 –Creativity Attribute "Change" link with KM Practices

The last creativity attribute is "Organizational", selected by 4 respondents, this attribute is related to learning, innovation and capabilities (Argote and Spektor, 2009; Liao et al,2013; Defillippi et al. 2007; DiLiello et al., 2011; Teerajetgul, 2009; Marsh and Stock, 2006; Coelho et al., 2006; Söderlund, 2010; Medina, 2010). This attribute is related to the km practice "Measuring Organizational Performance in KM, categorized into four groups: financial measures, intellectual capital, tangible and intangible benefits, and balanced scorecard", selected by eleven participants. This km practice is aims at enhancing performance, culture of the organization, motivation, resources, networks and routines (Jiang, Wang and Zhao and 2013; Han, Chiang and Chang, 2010; Liao, Chang Hu and Yueh, 2013; Wood and Menezes, 2011; DiLiello et al., 2011; Song, Nerur and Teng, 2007 and Lin and Huang, 2010).
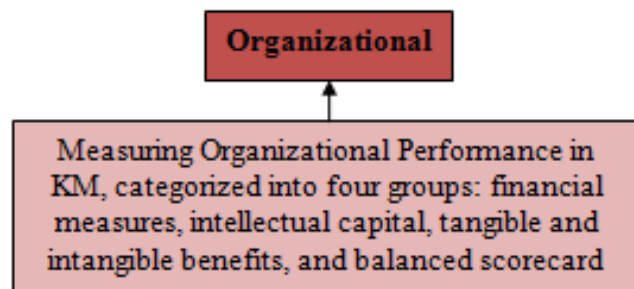

Figure 53 –Creativity Attribute "Organizational" link with KM Practices

The survey respondents selected 10 attributes for recruitment: Commitment (selected by 13 respondents); Experience (selected by 12); Qualifications (selected by 8 respondents); Retention (selected by 15 respondents); Selection (External) (selected by 7 respondents); Diversity (selected by 6 respondents); Costs (selected by 17 respondents); Activities (selected by 11 respondents); Skills (Hard) (selected by 14 respondents) and Organizational Culture (selected by 19 respondents). The first attribute, "Commitment", is related to 3 km practices "Environmental Management System: 1- Provide training; 2- Guarantee effective communication; 3- Motivate employees" (selected by 17 respondents); "Develop and implement HR tactics and action plans in the organization to support the departments in achieving the business objectives" (selected by 11 respondents); "Salary with a Fixed-Base Component combined with a variable component (performance-related)" (selected by 11 respondents). Regarding the first km practice "Environmental Management System: 1- Provide training; 2- Guarantee effective communication; 3- Motivate employees", it is aimed at adapting to changes, problem-solving between team members, increase effectiveness, organizational learning, employee well being and supervisors support (Loke et al., 2012; Berman and Kim, 2010; Söderlund, 2010; Tian et al., 2010; Wood and Menezes, 2011; Majchrzak et al., 2004; Calantone et al., 2002; Steen et al., 2007).
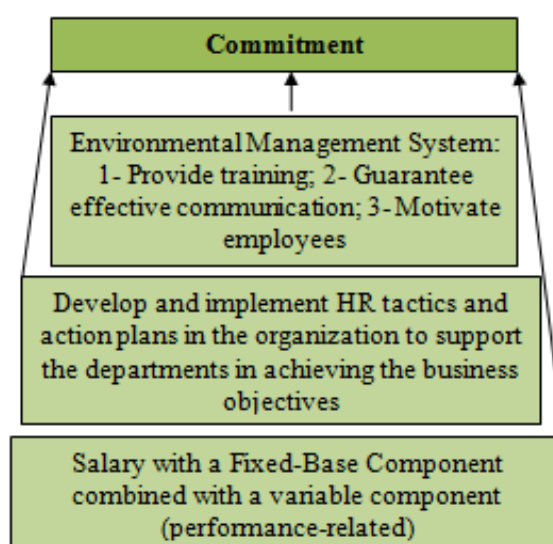

Figure 54 –Recruitment Attribute Commitment link with KM Practices

The second km practice "Develop and implement HR tactics and action plans in the organization to support the departments in achieving the business objectives", is

concerned with the enhancement of organizational communication, pay per performance objectives, effectiveness firm practices, knowledge management discipline, knowledge sharing, knowledge storage and knowledge utilization (Loke et al., 2012; Balogun, Jenkins, 2003; London and Siva, 2011; Liao et al., 2013; Lee and Choi, 2003; Dul and Ceylan, 2011; Sung and Choi, 2012). The third km practice, "Salary with a Fixed-Base Component combined with a variable component (performance-related)" is aimed at positioning the right employees in the right organizational role, exploiting employee personal knowledge, attract the best talent, increase performance and innovation (Teerajetgul et al., 2009; Lin and Huang, 2010; Berman and Kim, 2010; D'Netto et al., 2010; Jiang et al., 2013; Medina et al., 2011).
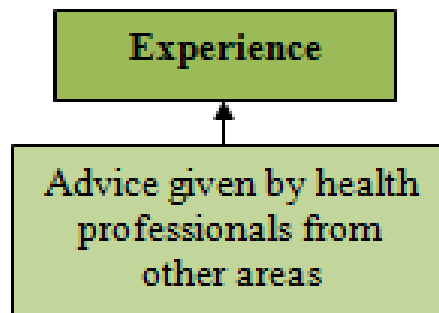

Figure 55–Recruitment Attribute "Experience" link with KM Practices

The attribute "Experience", selected by 12 respondents, is related to learning, translate knowledge into experience, employee experience, academic experience, share, individual skill and knowledge utilization, innovation and expertise (Argote and Spektor, 2009; Phipps et al., 2012; Ojiako et al., 2011; Majchrzak et al.,2004; Calantone, 2002; Schmitt et al., 2012; Stocker et al.,2008; Litchfield, 2013). This attribute is related to one km practice "Advice given by health professionals from other areas "(13 respondents selected this km practice) that is related with personal networks, knowledge sources and knowledge sharing.
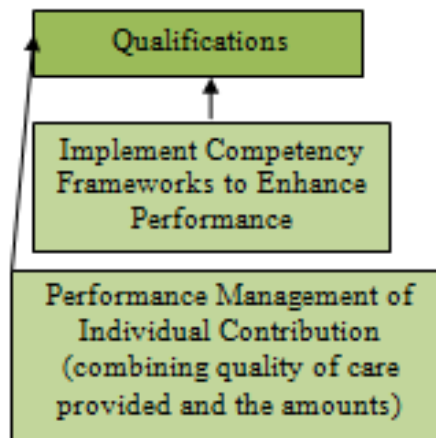
Figure 56 –Recruitment Attribute "Qualifications" link with KM Practices

The recruitment attribute "Qualification", selected by 6 respondents, refers to work experience, knowledge acquisition, skills, management and employee abilities (Teerajetgul *et al.*, 2009; Cappellin, 2007; Burg *et al.*, 2012; London and Siva, 2011; Dul and Ceylan, 2011). This attribute is related to 2 km practices "Implement Competency Frameworks to Enhance Performance", selected by 11 survey respondents ; "Performance Management of Individual Contribution (combining quality of care provided and the amounts)", selected by 12 respondents. Regarding the first km practice, it is related with understand what are the competencies that support more effectively the value creation process of the organization (Steen *et al.*, 2007; Teerajetgul *et al.*,2009; Liao *et al.*,2013; Loke *et al.*, 2012; Calantone *et al.*, 2002; DiLiello et al., 2011).
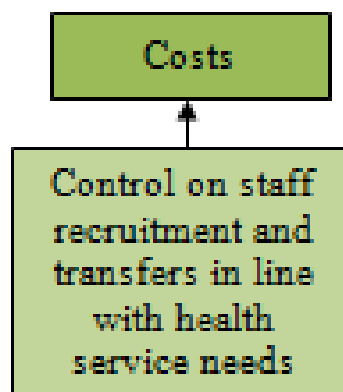

Figure 57 –Recruitment Attribute "Costs" link with KM Practices

The attribute "Costs", selected by 17 respondents, is related with profit estimation, cost saving management practices, business opportunities, knowledge acquisition, (Donaldson et al., 2013; Cappellin, 2007; Leiponen and Helfat, 2010; Loke et al., 2012; Medina et al., 2011). This recruitment attribute is related with one km practice "Control on staff recruitment and transfers in line with health service needs", selected by 15 respondents, which related with customer needs, organizational needs, change, quality management and organizational learning (Coelho et al., 2011; Stocker et al., 2008; Coelho et al.,2011; Skok and Kalmanovitch, 2005; Cappellin,2007; London and Siva, 2011; Unger et al., 2012; Liao et al., 2013; Loke et al., 2012; Wood and Menezes, 2011).
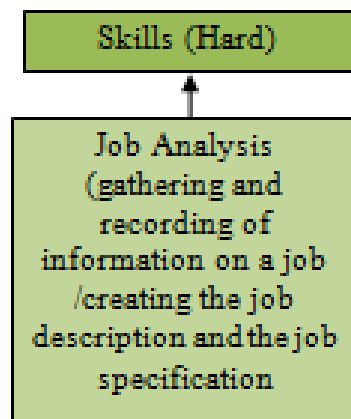
Figure 58 –Recruitment Attribute "Skills (Hard)" link with KM Practices

The attribute "Skills (Hard)", selected by 14 respondents, is related with performance increasing, technical knowledge, IT, close knowledge gap, management, development, competencies, cognitive skills, specific skills and team skills (Nakamori, 2006; Teerajetgul et al., 2006; Ojiako et al.,2011; Yang, 2011; Nakamori et al., Balogun and Jenkins, 2003; Coelho et al., 2011; Martins and Shalley, 2011; Cappelin, 2007; Loke et al.,2012; Argote et al., 2009; Litchfield and Gilson, 2013; Lin and Huang, 2010; Johnston and Paladino,2007; Burg et al., 2013). One km practice supports this attribute, selected by 11 respondents, "Job Analysis (gathering and recording of information on a job /creating the job description and the job specification", is related with skill specificity, training , quality enhancement and mobility (Balogun and Jenkins, 2003; Lee and Choi, 2003; Skok and Kalmanovitch, 2005; Howard et al., 2011).
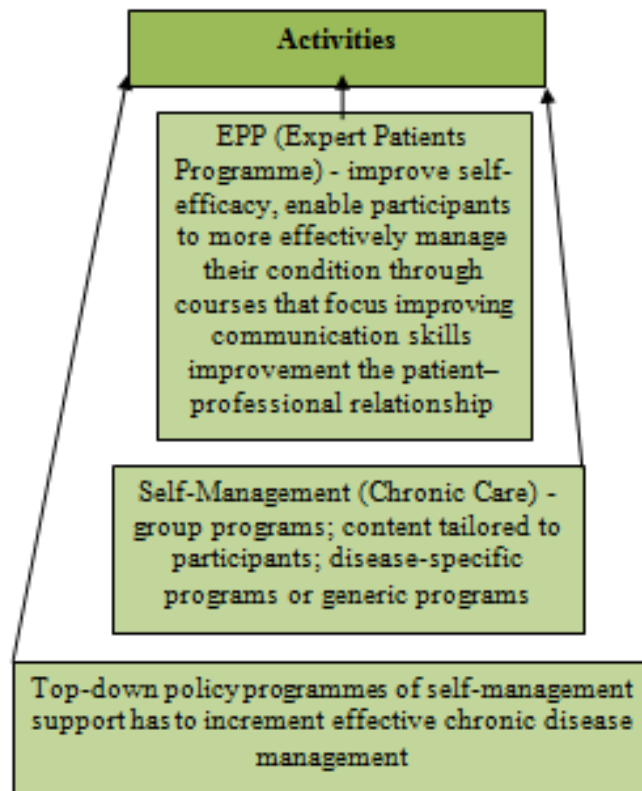
Figure 59 –Recruitment Attribute "Activities" link with KM Practices

The attribute "Activities", selected by 11 respondents, is related with knowledge exchange activities, innovation, training, collaborative, learning, implementation, social, research and development and knowledge management activities (Song et al., 2007; Andersen and Kragh, 2013; Medina et al., 2011; Kehoe, 2010; Yeh, Yeh and Chen, 2013; Chen and Yeh, 2008; DeFillipini et al., 2007; Liao et al., 2013; Majchrzak et al., 2004; Phipps et al.,2012; Gray, 2011; Lin and Huang, 2010; Ortiz et al., 2010) This attribute is related with 3 km practices: "EPP (Expert Patients Programme) - improve self-efficacy, enable participants to more effectively manage their condition through courses that focus improving communication skills improvement the patient–professional relationship", selected by 10 respondents; "Self-Management (Chronic Care) - group programs; content tailored to participants; disease-specific programs or generic programs" selected buy 11 survey respondents; "Top-down policy programmes of self-management support has to increment effective chronic disease management", selected by 11 respondents.

The firs km practice is "EPP (Expert Patients Programme) - improve self-efficacy; enable participants to more effectively manage their condition through courses that focus

improving communication skills improvement the patient–professional relationship", aiming at knowledge sharing with external sources, improve communication with stakeholders, establish communication networks, (Coelho et al., 2011; Johnston and Paladino, 2007; Chen and Yeh, 2008; Loke et al. 2012). The second km practice is "Self-Management (Chronic Care) - group programs; content tailored to participants; disease-specific programs or generic programs", envisioning training programmes, mentoring, innovation, quality management and management. The third km practice, "Top-down policy programmes of self-management support has to increment effective chronic disease management", is related with development programmes, programme mobility, talent management programmes (Medina et al., 2011; Unger et al., 2012; Huang and Tansley, 2013; Leiponen and Helfat, 2010).
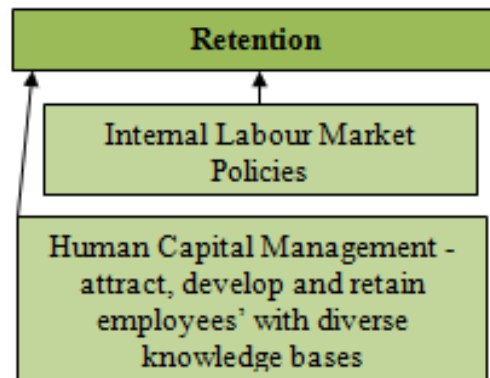
Figure 60 –Recruitment Attribute "Retention" link with KM Practices

The attribute "Retention", selected by 15 respondents, (Collings and Dick, 2013; Raeder et al., 2012; Kothari and Wathen, 2013; Gomez et al., 2013; Merry et al., 2010; Warner 2008; Young et al., 2012; Ng. and Burke, 2005; Singh and Han,2010; Arrowsmith et al.,2007; Standing and Chowdhury, 2008; Bozzette and Posner, 2013; Ng and Sears, 2010; Thompson and Heron, 2005) knowledge acquisition, permanent staff, employee satisfaction, low turnover, organizational commitment, recruitment and development, knowledge creation and top performers retention (Kothari and Wathen, 2013; Collings and Dick, 2013; Raeder, et al. 2013; Gomez et al.,2010; Merry et al.,2010; Warner, 2008; Young et al., 2012; Ng, and Burke, 2005; Singh and Han, 2010; Standing, Mushtaque and Chowdhury, 2008; Bozzette and Posner,2013; Thompson and Heron, 2005). The km practice "Internal Labour Market Policies", selected by 12 respondents, is related to employee retention, recruitment of talent, flat organizational structures, corporate culture,

internal practices, knowledge diversity, internal recruitment, transfers and promotions, training, knowledge creation, intellectual capital, efficiency and highly qualified workforce (Sayım, 2010; Bach and Bordogna, 2011; Collings and Dick, 2013; Soltani, 2010; Almeida et al., 2011; Gendron, 2011; Thompson and Heron, 2005).

The second km practice related to this recruitment attribute is "Human Capital Management - attract, develop and retain employees' with diverse knowledge bases", is related to sustainable competitive advantage, employee development, tailored human resource practices, recruitment and selection, skilled employees, organizational performance, support form supervisors and knowledge based organization (Billett et al., 2011; Harney et al., 2011; Rao, 2007; Thompson and Heron, 2005; Soltani, 2010; Warner, 2008; Zhao, 2008).
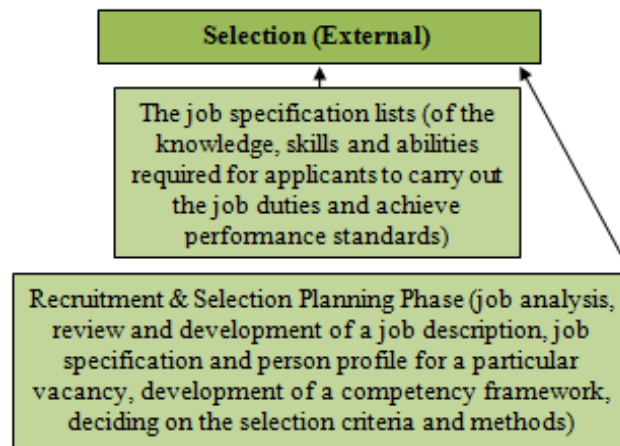
Figure 61 –Recruitment Attribute "Selection (External)" link with KM Practices

Another recruitment attribute is "Selection (External)", selected by 7 respondents, specific employee methods, knowledge gaps, job security, career management, criterions, recruitment policies, (Ng and Sears, 2010; Liu et al., 2006; Zabalza and Matey, 2011; Currie, 2003; Aydınlı, 2010; Raeder, Knorr and Hilb, 2013; De Winne, and Sels, 2010; Fenwick, 2005; Guchait and Cho, 2010; Andresen and Biemann, 2013; Waiganjo and Kahiri, 2012). This attribute is related to the km practice "The job specification lists (of the knowledge, skills and abilities required for applicants to carry out the job duties and achieve performance standards)" is related to competency frameworks, HR policies design, satisfy need specifications, specific knowledge to specific position, training and knowledge management systems (Almeida et al., 2011; Söderquist, 2006; Colucci et al., 2011; Fenwick, 2005; Mitchell, Friswell and Mooren,

2012). The other km practice related to this recruitment attribute is "Recruitment & Selection Planning Phase (job analysis, review and development of a job description, job specification and person profile for a particular vacancy, development of a competency framework, deciding on the selection criteria and methods)". This km practice aims at exploit knowledge, purpose, efficiency, clearness, performance indicators, management competencies, environmental criteria, standards and expectancies (Colucci et al.,2011; Li, Ji; Almeida et al., 2011; Qian, Gongming; Liao, Stacy and Chu, Chris W. L., 2008).
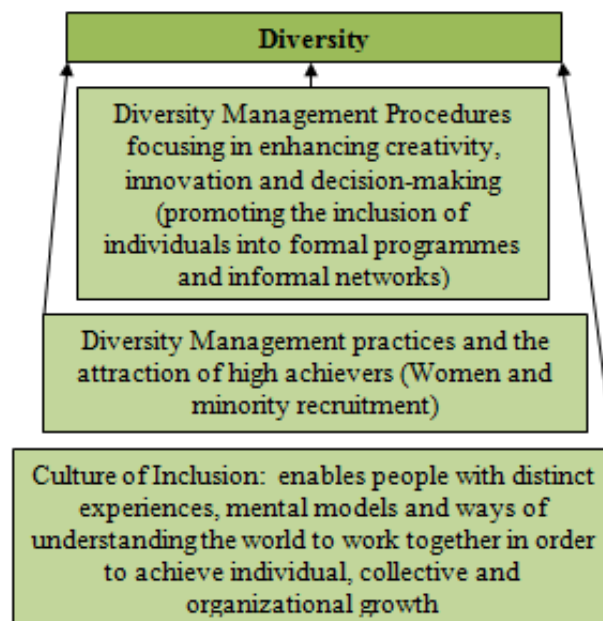
Figure 62 –Recruitment Attribute "Diversity" link with KM Practices

The recruitment attribute "Diversity", leverage by 3 km practices, is related to diversity management, higher knowledge value, cultural diversity, organizational and individual change, synergy, quality and diverse experience (Herrera et al., 2011; Sippola and Smale, Adam, 2007; Ledwith and Seymour, 2010; Singh and Han, 2010; Hutchings and Metcalfe, 2010; Taylor et al., 2010; Giesbrecht et al., 2009; Morgan et al., 2011; Clegg, and Gray, 2011). This attribute is related to 3 km practices which are "Diversity Management Procedures focusing in enhancing creativity, innovation and decision-making (promoting the inclusion of individuals into formal programmes and informal networks)", selected by 12 respondents; "Diversity Management practices and the ttraction of high achievers (Women and minority recruitment)"; selected by 10 respondents; "Culture of Inclusion: enables people with distinct experiences, mental

models and ways of understanding the world to work together in order to achieve individual, collective and organizational growth", selected by 12 respondents.

The first km practice, "Diversity Management Procedures focusing in enhancing creativity, innovation and decision-making (promoting the inclusion of individuals into formal programmes and informal networks), aims at promoting establish careers, communication system, informal communications, socialization practices, e diversity in employees' knowledge bases, diverse expertise, knowledge creating capability, rich organizational memory, diverse organizational pay systems and a diverse qualifications, skills and experience, attract and retain an increasingly diverse workforce and forge a competitive advantage (Wood and Menezes, 2011; Moriarty et al., 2013; Pan and Wang, 2010; Ng, Eddy S.W. and Sears, Greg J., 2011; Harney et al., 2011; Sartorius et.al, 2011; De Winne and Sels, 2011; Bach and Bordogna, 2011; Bossong, 2013; Pan and Wang, 2010; Bach and Bordogna, 2011).

The second km practice, "Diversity Management practices and the attraction of high achievers (Women and minority recruitment)". This km practice is related with knowledge production; information management; diverse workgroup; innovation; culture of inclusiveness; staff development; suppress knowledge gaps; attract (Currie, 2010; Guchait et al., 2010; Sippola and Smale, 2007; Morgan et al., 2011; Giesbrecht et al., 2009; Billett, et al., 2011). The third km practice, "Culture of Inclusion: enables people with distinct experiences, mental models and ways of understanding the world to work together in order to achieve individual, collective and organizational growth" (Thompson and Heron, 2005; Colucci, et al., 2011; Sippola and Smale, 2011; Fields, Roman, Blum, 2012; Taylor et al., 2008; Crawford and Nahmias, 2010; Meliadou, Santoro, Nader, Dagher, Al Indary and Salloum, 2012).
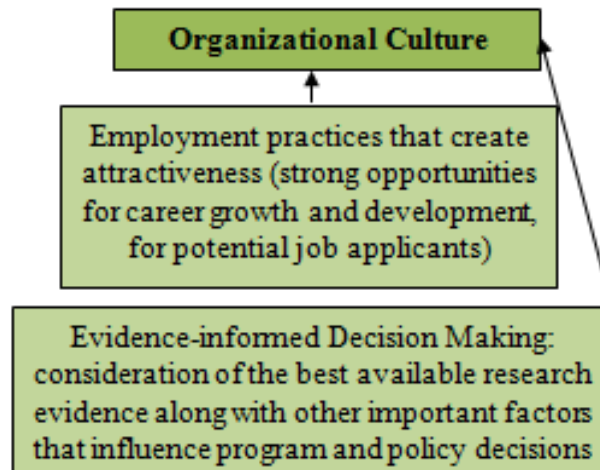
Figure 63 –Recruitment Attribute "Organizational Culture" link with KM Practices

The last recruitment attribute, "Organizational Culture", is related to performance management, high achievement orientation, career development, quality improvement, civic behaviors and maximize capacities, effective communication, outwardly oriented culture, investment in human capital and knowledge retention, polyvalent skills (Srinivasa, 2007; Harney, et al., 2011; Globerman, White and McDonald, 2002; García, 2010; Zhao, 2008; Gomez et al., 2010 ; Zabalza and Matey, 2011; Jiménez, Sanz, 2008; Hoffman and High-Pippert, 2010). This attribute is related to two km practices, "Employment practices that create attractiveness (strong opportunities for career growth and development, for potential job applicants", selected by 10 respondents, "Evidence-informed Decision Making: consideration of the best available research evidence along with other important factors that influence program and policy decisions", selected by12 respondents. The first km practice "Employment practices that create attractiveness (strong opportunities for career growth and development, for potential job applicants") is related attracting well-qualified and experienced staff, integration of younger workers, engaging organizational mission, internships, employee development and attractive compensation packages (Ruhanen et al., 2011; Liu, Martineau, Chen, Zhan and Tang, 2006; Gendron, 2011; Bossong, 2013; Ruhanen et al.,2011; Meliadou et al., 2012; Guchait and Cho, 2010; Huang, Lin and Lin, 2011; Jiménez and Valle, 2008).

There are seven attributes from motivation selected from the survey: "Incentives", selected by 17 respondents; "Collaboration", selected by 14 respondents; "Attitude", selected by 12 respondents; "Create Knowledge", selected by 19 respondents;

"Organizational Values", selected by 20 respondents; "Learning Environment", selected by 15 respondents and "Knowledge Sharing", selected by 23 respondents.
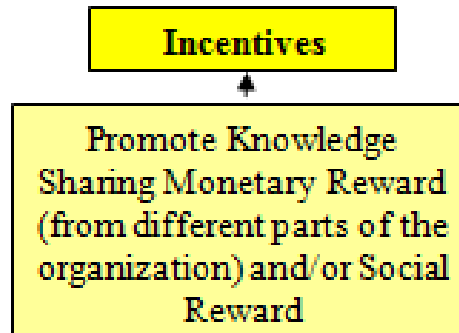
Figure 64 –Motivation Attribute "Incentives" link with KM Practices

Regarding the motivation attribute "Incentive" it is related with economic incentives on knowledge sharing, short-term incentives to trigger behavior change and prevent certain behaviors, group incentives, incentives for proactivity, intrinsic and extrinsic incentives, retention, innovation related incentives, knowledge growth and knowledge re-utilization from other projects (Razee et al., 2012; Park and Rainey, 2013; Hiscock, 2004; Rabbiosi, 2012; Hau and Kim, 2011; Cao and Xiang, 2012; Chen, Shih and Yeh, 2013; Esterhuizen and du Toit, 2012; Bloom and Wolcott, 2012; Liu and Fang, 2010). This attribute is related to 1 km practice "Promote Knowledge Sharing Monetary Reward (from different parts of the organization) and/or Social Reward", selected by 7 respondents, which aims at group knowledge sharing incentives, implement formal knowledge sharing norms, positive impact on individual knowledge sharing attitudes, engage in knowledge sharing communities (Gagné, 2009; Shu and Chuang, 2011; Argote, McEvily and Reagans, 2003; Kane, 2007; Shu and Chuang, 2011).
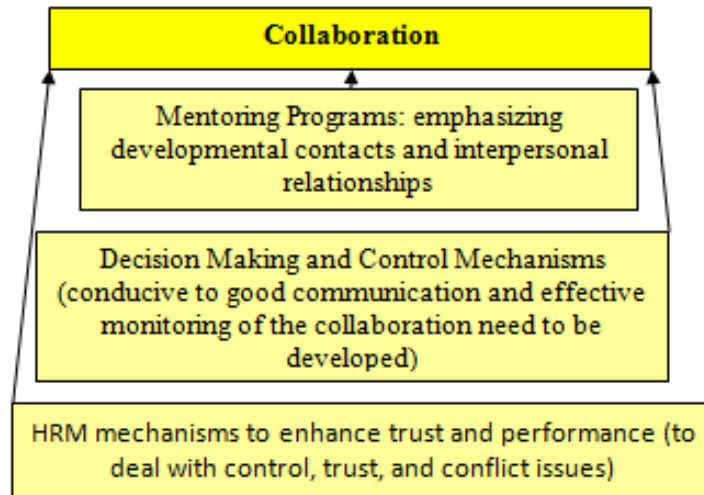
Figure 65 –Motivation Attribute "Collaboration" link with KM Practices

Another motivation attribute is "Collaboration", which is related to learning activities, knowledge sharing, Information Technology means, social practices and inter-organizational collaboration (Allen, Hyde and Leslie, 2012; Hau and Kim, 2011; Li and Li, 2007; Taylor et al., 2007; Choudhary et al., 2011; Schoor and Bannert, 2011; Liaw, Shu, Chen and Huang, 2008). This attribute is related to 3 km practices "Mentoring Programs: emphasizing developmental contacts and "interpersonal relationships"; "Decision Making and Control Mechanisms (conducive to good communication and effective monitoring of the collaboration need to be developed)" and "HRM mechanisms to enhance trust and performance (to deal with control, trust, and conflict issues)". The first km practice, "Mentoring Programs: emphasizing developmental contacts and "interpersonal relationships", aims at establish several forms of social communication development through interpersonal collaboration and coordination and group interactions, transfer experience and informal communities of practice (Park and Rainey, 2013; Yamamoto, 2011 and Gray and Meister, 2004).
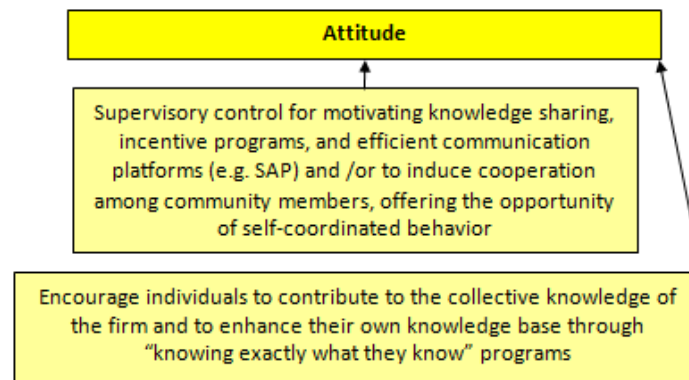
Figure 66 –Motivation Attribute "Attitude" link with KM Practices

There are two km practices related with the attribute "Attitude", which are "Supervisory control for motivating knowledge sharing, incentive programs, and efficient communication platforms (e.g. SAP) and /or to induce cooperation among community members, offering the opportunity of self-coordinated behavior", selected by 8 respondents; and "Encourage individuals to contribute to the collective knowledge of the firm and to enhance their own knowledge base through "knowing exactly what they know" programs", selected by 12 respondents. The first km practice "Supervisory control for motivating knowledge sharing, incentive programs, and efficient communication platforms (e.g. SAP) and /or to induce cooperation among community members, offering the opportunity of self-coordinated behavior", aims at granting the creation of a innovation fostering environment, organizational performance, successful system development projects, promote knowledge utilization, enhance knowledge-base, personal realization and capability governance mechanisms (Chang, Yen, Chiang and Parolia, 2013; Esterhuizen, Schutte, du Toit, 2012; Gagné, 2009; Chen and Hung, 2010; Wang, Tseng and Yen, 2013; Paswan and Wittmann, 2009; Shih, Chiang and Chen, 2011 and Hau and Kim, 2011).
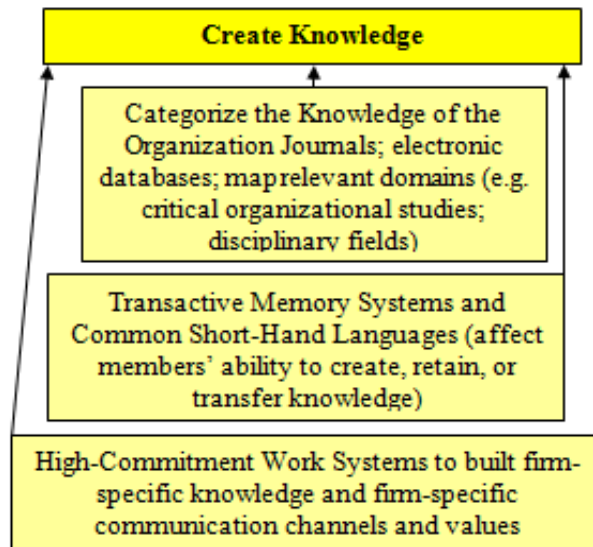
Figure 67 – Motivation Attribute "Create Knowledge" link with KM Practices

Regarding the attribute "Create Knowledge", there are 3 km practices, "Categorize the Knowledge of the Organization Journals; electronic databases; map relevant domains (e.g. critical organizational studies; disciplinary fields)", selected by 8 respondents; "Transactive Memory Systems and Common Short-Hand Languages (affect members' ability to create, retain, or transfer knowledge)", selected by 10 respondents and "High-Commitment Work Systems to built firm-specific knowledge and firm-specific communication channels and values", selected by 11 respondents. The first km practice, "Categorize the Knowledge of the Organization; electronic databases; map relevant domains (e.g. critical organizational studies; disciplinary fields)", aims at conducting evidence-based management implementation, knowledge-sharing, knowledge protection, render knowledge explicit (Ferlie et al., 2012; Cao and Yong, 2012; Paswan and Wittmann, 2012; Hiscock, 2004).
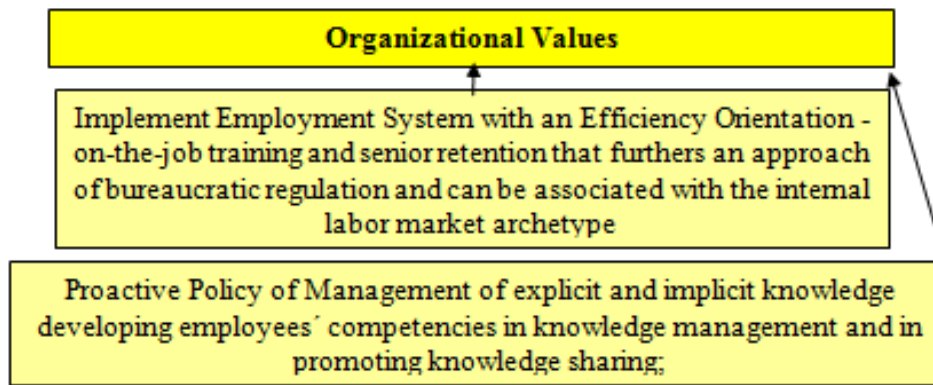
Figure 68 – Motivation Attribute "Organizational Values" link with KM Practices

Another motivation attribute "Organizational Values" is related with two km practices, Implement "Employment System with an Efficiency Orientation - on-the-job training and senior retention that furthers an approach of bureaucratic regulation and can be associated with the internal labor market archetype", selected by 10 respondents; and "Proactive Policy of Management of explicit and implicit knowledge developing employees´ competencies in knowledge management and in promoting knowledge sharing", selected by 8 respondents. The first km practice, "Implement "Employment System with an Efficiency Orientation - on-the-job training and senior retention that furthers an approach of bureaucratic regulation and can be associated with the internal labor market archetype" aims at gather experience, innovative products and services, performance appraisal systems, knowledge sharing behaviors, internal and external knowledge transfer and focus on productivity (Hansen et al.,2013; Wang, Tseng and Yen, 2013; Allen, Hyde and Leslie, 2012).
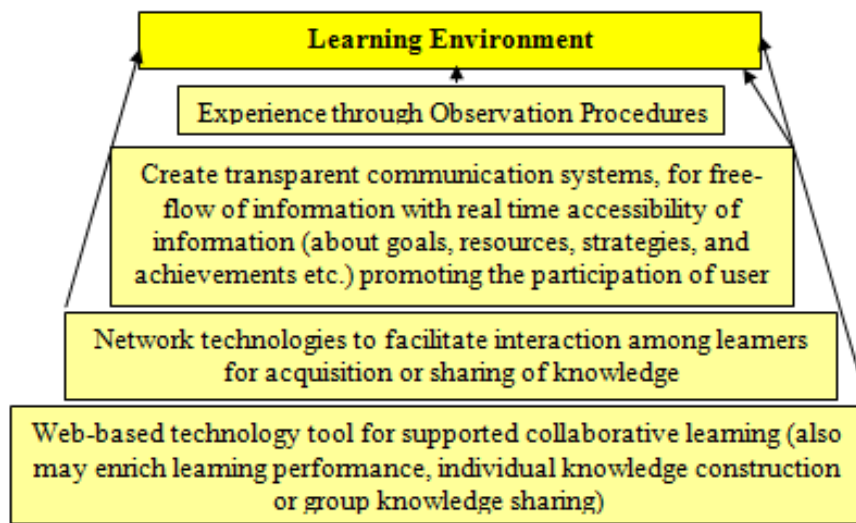
Figure 69 – Motivation Attribute "Learning Environment" link with KM Practices

The motivation attribute "Learning Environment", selected by 15 respondents, is related to 8 km practices: "Experience through Observation Procedures", selected by 15 respondents; "Create transparent communication systems, for free-flow of information with real time accessibility of information (about goals, resources, strategies, and achievements etc.) promoting the participation of user", selected by 7 respondents; "Network technologies to facilitate interaction among learners for acquisition or sharing of knowledge", selected by 9 respondents ;"Web-based technology tool for supported collaborative learning (also may enrich learning performance, individual knowledge construction or group knowledge sharing)", selected by 9 respondents; "Training (including acquisition of management skills, technology, and cross-cultural under-standing)", selected by 9 respondents; "Communities of practice (COPs) and other practice-related social networks (to share thoughts, find solutions, and pursue innovation)", selected by 9 respondents; "Professional virtual communities (PVCs -gather geographically dispersed, like-minded people to form a network for knowledge exchange), selected by 9 respondents; "Efficiency Strategy - Development of expert knowledge of young employees to become specialists in a certain function, exploitative learning mode focused on improving and reconfiguration of successful processes and established routines", selected by 13 respondents.

The km practice "Experience through Observation Procedures", is related with inter-unit experience affection, job satisfaction, relational ties within the organization, knowledge

sourcing, partner specific knowledge, gain of individual experience and service experience embeddedness (Kane, 2007; Kuvaas, Buch and Dysvik, 2012; Park and Rainey, 2013; Gray and Meister, 2004; Melnik et al.,2013; Bakker et al.,2011).

Regarding the km practice "Create transparent communication systems, for free-flow of information with real time accessibility of information (about goals, resources, strategies, and achievements) promoting the participation of user" it aims at creating mentoring socialization, employee knowledge sharing participation, firm-specific communication channels, communication networks, training on collaboration and coordination and eliminate barriers to communication (Park and Rainey, 2013; Ferlie et al., 2012; Liaw, Chen and Huang, 2008; Malhotra and Galletta, 2003; Liaw, Chen and Huang, 2008; Hansen and Alewell, 2013; Paswan and Wittmann, 2009).

The km practice "Network technologies to facilitate interaction among learners for acquisition or sharing of knowledge", selected by 9 respondents, is aimed at increasing the knowledge sharing capacity, knowledge brokers, socio-technological practices, social capital, practice-related social networks and informal networks (Ferlie et al., 2012; Bloom and Wolcott, 2012; Wang, Tseng and Yen, 2013; Li and Jhang and Jhih, 2010; Schaaper, 2013).

Another km practice is "Web-based technology tool for supported collaborative learning (also may enrich learning performance, individual knowledge construction or group knowledge sharing), selected by 9 respondents, is related with group knowledge sharing, support collaborative effort, knowledge accessibility, knowledge management system and knowledge classification (Lee and Jang 2010; Taylor, Lin, Harding and Tsai, 2013; Choudhary, Harding, Lin and Tiwari, 2011 and Dysvik et al., 2012).

The fifth km practice related with this motivation attribute is "Training (including acquisition of management skills, technology, and cross-cultural understanding)", selected by 8 respondents, which envisions the social capital enhancement, expert base organizations, mobilizing skills within the organization, performance improvement, individual level knowledge sharing sensibilization, change implementation, knowledge exploitation, retention management, competitive advantage (Khoja, 2010; Baughn et al., 2011; Hansen and Alewell, 2013; Sekiguchi, Bebenroth and Li, 2011 and Yamamoto, 2011). Another km practice, selected by 9 respondents, "Communities of practice (COPs) and other practice-related social networks (to share thoughts, find solutions, and pursue innovation)" is related with innovation, elicit knowledge sharing behavior, motivation,

development of mutual understandings, self-efficacy providing, intrinsic motivation and problem solving skills development and common values and norms (Li, Jhang and Jhih, 2010; Gagné, 2009; Ferlie et al., 2012; Chen and Hung, 2010; Malhotra and Galletta, 2003; Hau and Kim, 2011).

The km practice "Professional virtual communities (PVCs -gather geographically dispersed, like-minded people to form a network for knowledge exchange)", selected by 9 respondents, aims at promote knowledge exchange, knowledge acquisition, reward knowledge sharing, promote social practices, building validated communal knowledge (Shu and Chuang, 2011; Li, Jhang and Jhih, 2010; Choudhary et al., 2011).

Regarding the km practice "Efficiency Strategy - Development of expert knowledge of young employees to become specialists in a certain function, exploitative learning mode focused on improving and reconfiguration of successful processes and established routines", selected by 13 respondents, it is related with improving communication, improving team collaboration, goal achieving, increase the effectiveness of task delivery to the employees with the right knowledge for the task, develop younger employees experience, increase virtual collaboration and use of technology, training for the specific role and foster socialization (Esterhuizen, 2012; Chang, Yen, Chiang and Parolia, 2013; Hansen, Alewell, 2013; Taylor, Lin, Harding and Tsai, 2013; Allen, Hyde and Leslie, 2012; Wang, Tseng and Yen, 2010).
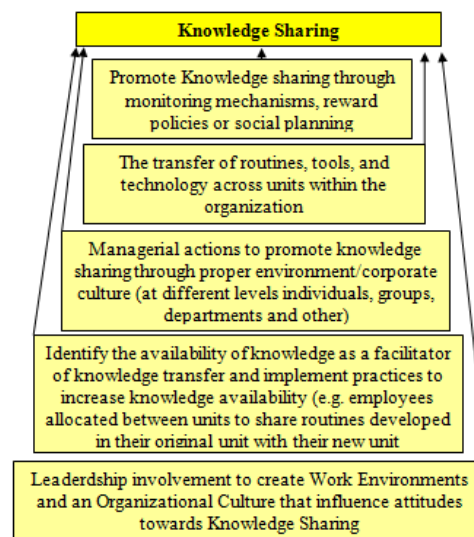
Figure 70 – Motivation Attribute "Knowledge Sharing" link with KM Practices

The last motivation attribute is "Knowledge Sharing", selected by 23 survey respondents, and is related to sharing experiences, creating tacit knowledge, promote knowledge sharing willingness, material incentives (e.g. salary, equity, promotion), acquire knowledge resources, individual intrinsic motivation to share knowledge, knowledge creation, creation of knowledge repositories, knowledge re-use, influence organizational routines, increase absorptive capacity, share capabilities and knowledge identification (Hiscock, 2004; Liu and Fang, 2010; Liaw, Chen and Huang, 2008; Shu and Chuang, 2011; Xiao and Nan, 2010; Paswan and Wittmann, 2009; Rabbiosi, 2012; Malhotra and Galletta, 2003; Choudhary, Harding, Lin, Tiwari and Shankar, 2011; Chen, Hung, 2010).

This attribute is related to the following km practices: "Promote Knowledge sharing through monitoring mechanisms, reward policies or social planning", selected by 9 respondents; "The transfer of routines, tools, and technology across units within the organization", 11 respondents; "Managerial actions to promote knowledge sharing through proper environment/corporate culture (at different levels individuals, groups, departments and other)", selected by 9 respondents; "Identify the availability of knowledge as a facilitator of knowledge transfer and implement practices to increase knowledge availability (e.g. employees allocated between units to share routines developed in their original unit with their new unit", selected by 9 survey respondents and "Leadership involvement to create Work Environments and an Organizational Culture that influence attitudes towards Knowledge Sharing", selected by 11 respondents.

Regarding the km practice "Promote Knowledge sharing through monitoring mechanisms, reward policies or social planning" it is related with knowledge sourcing, raise awarence of the consequences of not engaging in knowledge sharing practices, intrinsic and extrinsic rewards, socialization and retention practices, and the reward systems (Baughn et al., 2011; Li, Jhang, 2010; Gray, Meister, 2004; Taylor, Lin, Harding, and Tsai, 2013; Melnik, Petrella and Richez, 2013).

The km practice "The transfer of routines, tools, and technology across units within the organization" is related with dynamic capabilities, engage in virtual online communities, combine employee expertise, create dynamic knowledge environments, create intra-firm networks, promote knowledge pools and/or enhancing new recombinatory mechanisms, and develop a trust environment (Hau and Kim, 2011; Xiao and Nan, 2010; Paswan and Wittmann, 2009; Khoja, 2010; Hansen and Alewell, 2013).

Regarding the km practice "Managerial actions to promote knowledge sharing through proper environment/corporate culture (at different levels individuals, groups, departments and other)" it is related with increase change adaptation speed, build a familiar environment, implement organizational effective practices to motivate employees and promote employee culture assimilation (Shih, Chiang and Chen, 2011; Wang, Tseng, Jung and Yen, 2013; Melnik et al., 2013).

The km practice "Identify the availability of knowledge as a facilitator of knowledge transfer and implement practices to increase knowledge availability (e.g. employees allocated between units to share routines developed in their original unit with their new unit", aims at retaining experience, providing the organization with the best technology, knowledge workers' motivation and commitment often determine the success or failure of knowledge management systems, convert new information in knowledge, correct knowledge utilization, promote knowledge transparency and usability (Khoja, 2010; Malhotra and Galletta, 2003 Hansen, Alewell, 2013; Choudhary, Harding, Lin, Tiwari and Shankar, 2011; Gray and Meister, 2004; Whan, 2011; Kane, 2010).

The last km practice "Leadership involvement to create Work Environments and an Organizational Culture that influence attitudes towards Knowledge Sharing" is related with forming trust and establishing open lines for communication, Promote commitment and job involvement, assess intrinsic motivation, promote unit knowledge sharing across departments and units, alert employees for the importance of reciprocity rewarding good behavior related with KM involvement and promote product familiarity, turned out to be an important characteristic of opinion leaders (Esterhuizen et al.,1012; Melnik, 2013; Xiao and Nan, 2010; Paswan and Wittmann, 2009; Mckenzie et al.,2010; Lee and Jang, 2010).
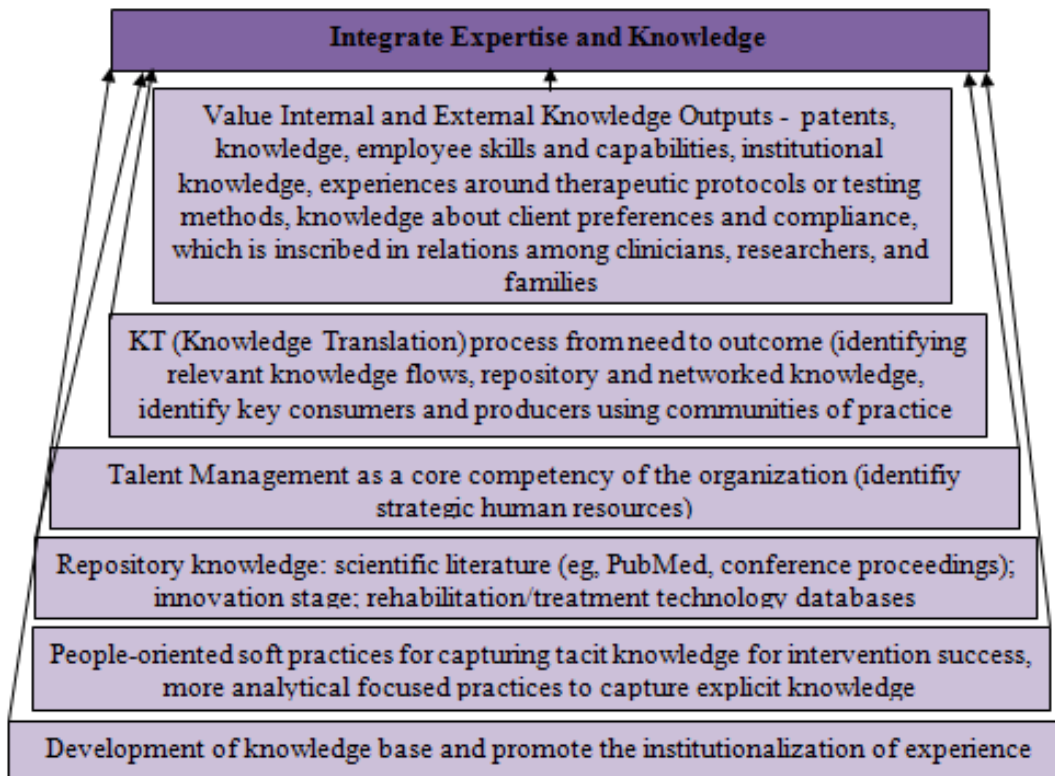
Figure 71 – New Ideas Generation Attribute "Integrate expertise and Knowledge" link with KM Practices

The attributes selected by the survey respondents for new ideas generation are "Integrate Expertise and Knowledge", selected by 18 respondents; "Innovation Strategy", selected by 11 respondents; "Adoption of New Ideas", selected by 16 respondents; "Service and Product Improvement", selected by 17 respondents; "Exchange Experiences", selected by 14 respondents; "Knowledge Tools", selected by 15 respondents; "Collaboration between Organizations" selected by 7 respondents; "Combination of Ideas and Recombination", selected by 7 respondents; Exploration, selected by 5 respondents.

The attribute "Integrate Expertise and Knowledge" is related with the km practices "Value Internal and External Knowledge Outputs - patents, knowledge, employee skills and capabilities, institutional knowledge, experiences around therapeutic protocols or testing methods, knowledge about client preferences and compliance, which is inscribed in relations among clinicians, researchers, and families", selected by 9 respondents; "KT (Knowledge Translation) process from need to outcome (identifying relevant knowledge flows, repository and networked knowledge, identify key consumers and producers using communities of practice", selected by 8 respondents; "Talent Management as a core competency of the organization (identify strategic human resources)", selected by 11 respondents; "Repository knowledge: scientific literature (e.g. PubMed, conference

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proceedings); innovation stage; rehabilitation/treatment technology databases", selected by 9 respondents; "People-oriented soft practices for capturing tacit knowledge for intervention success, more analytical focused practices to capture explicit knowledge", selected by 11 respondents; "Development of knowledge base and promote the institutionalization of experience", selected by 7 respondents.

The km practice "Value Internal and External Knowledge Outputs - patents, knowledge, employee skills and capabilities, institutional knowledge, experiences around therapeutic protocols or testing methods, knowledge about client preferences and compliance, which is inscribed in relations among clinicians, researchers, and families", is related with employment systems that foster internal labor market and high commitment, internalized achieving normative systems to achieve goals, promote knowledge gathering, access tacit knowledge embodied in employees, Allocating resources to employee developmental programs, continuously develop employee work-related knowledge and skills, promote internal and external knowledge transfer (Allen, Hyde and Leslie, 2012; Hansen and Alewell, 2013; Mckenzie et al., 2010; Liaw, Chen and Huang, 2008; Gray and Meister,2004; Dysvik et al., 2012).

The km practice "KT (Knowledge Translation) process from need to outcome (identifying relevant knowledge flows, repository and networked knowledge identify key consumers and producers using communities of practice)" aims at identifying knowledge that is deeply embedded within employees and product, identify and discuss new knowledge through virtual communities, use KM to develop new competencies and identify challenges (Paswan, Wittmann, 2009; Chen, Hung, 2010; Liaw, Chen and Huang, 2008; Allen, Hyde and Leslie, 2012).

The km practice "Talent Management as a core competency of the organization (identify strategic human resources)" is related to engaging employees to leverage IT means facilitating knowledge retention and knowledge sharing, manage the combination of different skills and talent, effective system for young employee retention, talent attraction recruitment policies, promote peer interaction and engage in on-the-job learning activities and engage in expatriate recruitment (Whan, 2011; Toode, Routasalo, and Suominen, 2011; Liu, Fang, 2010; Sekiguchi, Bebenroth and Li, 2011; Chen, Shih and Yeh, 2013; Schaaper et al., 2013).

The km practice "Repository knowledge: scientific literature (e.g. PubMed, conference proceedings); innovation stage; rehabilitation/treatment technology databases" is related

to building a trust climate that promotes the will to share knowledge, create and update knowledge repositories (with scientific knowledge and product knowledge) that are connected to networked employees, promote knowledge alliances (know-what and know-how), enable access to knowledge repository from other subsidiaries, assure the sub-jective experiences are objectivated and systematised as objective 'truths' and recorded in organizational memory, build a process knowledge repository, transfer practices and codification of tacit knowledge into a repository of best practices that can be shared across the organization (Chau et al., 2013; Sluyts et al., 2011; Kamoche et al., 2012; Yakhlef, 2010; Wang, Jha and Gong, 2010; Anand, Ward and Tatikonda, 2010).

The km practice "People-oriented soft practices for capturing tacit knowledge for intervention success, more analytical focused practices to capture explicit knowledge" is related with synthetization of concrete interactive forms of networking, knowledge of everyday life, expert and professional knowledge, product knowledge, identify the knowledge practices which generate usable knowledge in explicit or tacit forms, develop explicit intervention plans, render explicit experts insights, capture explicit and tacit knowledge flows and development of knowledge base and promote the institutionalization of experience (Adomßent,2013; Reich et al.2012; Molineux, 2012; Asquin, Garel and Picq, 2010; Chau, Moghimi and Popovic, 2013).
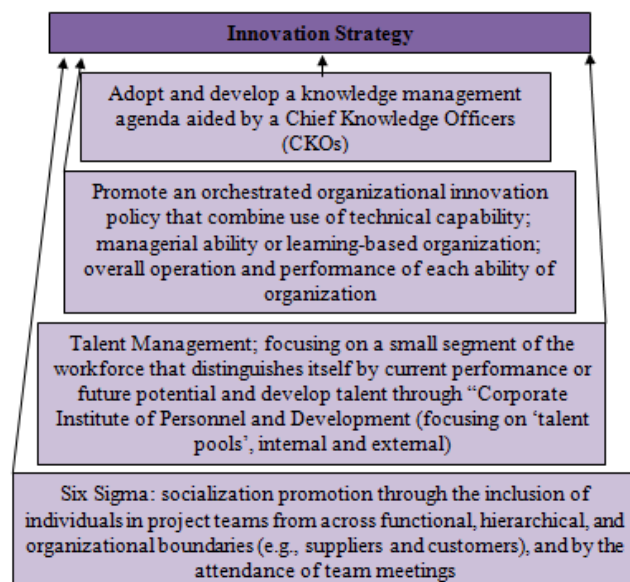
Figure 72 – New Ideas Generation Attribute "Innovation Strategy" link with KM Practices

The attribute "Innovation Strategy", selected by 11 respondents, is related to performance-driven orientation, (including reward system and process innovation) market intelligence, and intraorganizational knowledge sharing, knowledge base, creating a knowledge-oriented environment, allocate resources effectively identify a large number of opportunities and then to select a subset for development, embrace new products and processes and use management consultants as change agents (Yang, 2010; Kumar et al., 2012; Sturdy et al., 2012; Kornish and Ulrich, 2010; Varman and Chakrabarti, 2011).

Another km practice related to the attribute "Innovation Strategy" is "Adopt and develop a knowledge management agenda aided by a Chief Knowledge Officers (CKOs) Promote an orchestrated organizational innovation policy that combine use of technical capability; managerial ability or learning-based organization; overall operation and performance of each ability of organization". This km practice is related with high service quality and differentiated services, specific learning agenda, innovative partnerships, CKO´s strategic perspective to enhance knowledge management practices (Malik et al., 2012; Allen and Gunderson, 2011; Adomßent, 2013; Navarro et al., 2010).

The km practice "Talent Management; focusing on a small segment of the workforce that distinguishes itself by current performance or future potential and develop talent through "Corporate Institute of Personnel and Development (focusing on 'talent pools', internal and external)" aims at keeping talented workers engaged and motivated, grant inclusion of diverse employees, avoid talent shortage through attraction of new employees, develop, recruit and retain talent, and acquire and apply knowledge learned from talented expatriates, create incentives to influence the allocation of talent,   tacit knowledge acquisition by an individual's internalized processes (Garavan, 2013; Iles et al., 2010; Skuza et al.,2013; Kamoche et al., 2012; Naudé,2011; Paraskevas et al., 2010).

The km practice "Six Sigma: socialization promotion through the inclusion of individuals in project teams from across functional, hierarchical, and organizational boundaries (e.g., suppliers and customers) and by the attendance of team meetings" is related to capture tacit knowledge and identify process improvements, use softer practices (e.g. brainstorming) to capture tacit knowledge of project team members, invest in six sigma training and accreditation, focusing on the quality of the solutions using (TQM – total quality management) (Anand et al., 2010; Sturdy et al., 2012; Malik et al., 2012, Naudé,2011).
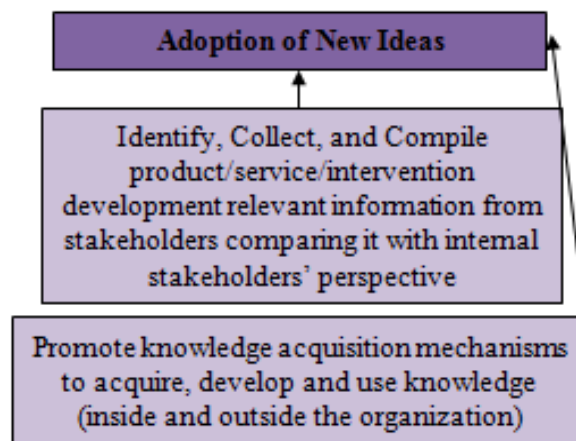
Figure 73 – New Ideas Generation Attribute "Adoption of New Ideas" link with KM Practices

The attribute "Adoption of New Ideas" is related with the km practice "Identify, Collect, and Compile product/service/intervention development relevant information from stakeholders comparing it with internal stakeholders' perspective", aims at retrieving knowledge from external sources, synthesized explicit knowledge and promote knowledge dissemination within the organization, promote an integrative effort of perspectives of the internal and external stakeholders and define knowledge and information relevance and quality, develop dynamic capabilities as firms' capabilities to integrate internal and external information, promoting coordination to address rapidly changing environments, and assess stakeholders involvement, motivation and expectations (Helene et al. 2012; Hoegl and Schulze, 2005; Chang and Tzeng, 2010; Schwilch et al., 2012).

Another km related to this attribute is "Promote knowledge acquisition mechanisms to acquire, develop and use knowledge (inside and outside the organization)", this km practice is related to codifying personal knowledge derived from past experiences, integrate qualitative and quantitative information into the tacit form, retrieve embedded knowledge in subjective or cultural contexts and problematic situations, engage in environmental management practices to promote openness to new ideas, build capabilities embedded ing them in firm routines and information-based processes that are realized through learning-by-doing, implement an enterprise information system and develop shared norms to promote trust and common mental models to promote knowledge sharing (Raymond et al., 2010; Mader, 2013; Adomßent, 2013; Uhlaner et al., 2011, Hogan et al., 2011; Haugland et al., 2011).
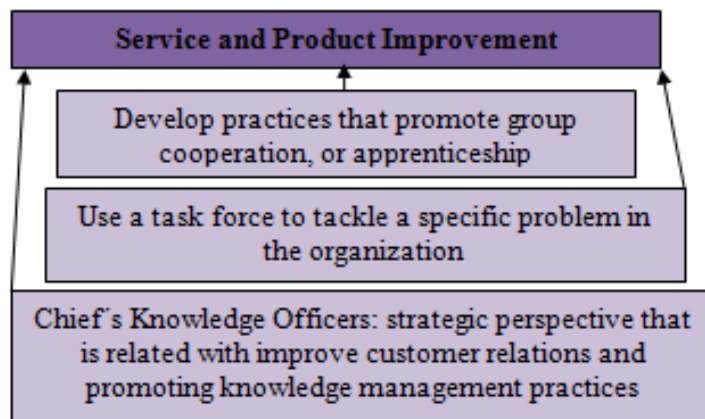
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Figure 74 – New Ideas Generation Attribute "Service and Product Improvement" link with KM Practices

The attribute "Service and Product Improvement" is related to the km practice "Develop practices that promote group cooperation or apprenticeship", which aims at engaging in social knowledge management strategies to promote interaction, cooperation and coordination as the elements, invest in the role of software in supporting inter-functional cooperation and the coordination of knowledge and activities, promote quality management practices that aim at continuous improvement, and employee fulfillment, balance formal and informal mechanisms, promote knowledge diffusion through task force, group cooperation, or apprenticeship, prevent high turnover, promote closer cooperation with its alliance partners (Zhao, 2010; Sher et al., 2004; Kumar et al., 2012; Chen and Chen, 2010; Weidenfeld et al., 2010; Helene et al., 2012; Varman and Chakrabarti, 2011).

Another KM practice related to this attribute is "Use a task force to tackle a specific problem in the organization", which aims at assembling alliance taskforces to deal with mutual problems, engage in talent management to deliver higher performance, foster knowledge diffusion through taskforces or internal training, process innovation, and develop decentralized action and expertise (task specifications, workflow mechanisms), (Sluyts et al., 2011; Iles et al., 2010; Chen and Chen, 2010; Zhao, 2010; Kumar et al., 2012; Varman and Chakrabarti, 2011)

The km practice "Chief´s Knowledge Officers: strategic perspective that is related with improve customer relations and promoting knowledge management practices" is aimed at acting as a facilitator in externalization and combination, enhance KM practices, increase

external personal networks for problem solving and encourage members to promote knowledge sharing (Chau et al., 2013,Navarro et al., 2010; Huber, 2013).
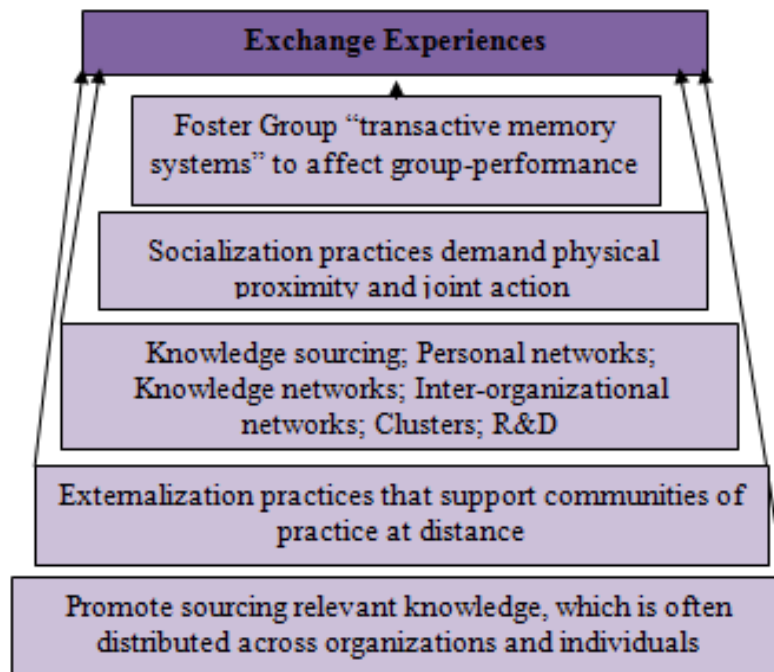
Figure 75 – New Ideas Generation Attribute "Exchange Experiences" link with KM Practices

The next attribute, "Exchange Experiences", is related with the km practice "Foster Group transactive memory systems to affect group-performance" that envisions the establishment of shared mental models, integrative capability, increase innovation performance and individual performance (Reich et al., 2012; Phelps et al., 2012; Noroozi et al., 2013).

Another KM practice related to this attribute is "Socialization practices demand physical proximity and joint action" which is related to knowledge creation, interaction between explicit and tacit knowledge, sharing experiences, shared mental models and technical skills, cross-functional integration in new product development, externalization practices can support communities of practice that transcend distances, technical understanding and mental models, making joint hands-on experiences, or working in the same environment (Reich et al., 2012; Linderman et al., 2004; Hirunyawipada, et al.,2010; Anand et al., 2010; Hoegl, Schulze, 2005; Chau et al.,2013; Sher et al., 2004)

Other KM practice related to this attribute is "Knowledge sourcing; Personal networks; Knowledge networks; Inter-organizational networks; Clusters; R&D" that aims to

enhance learning capacity, promote organizational networks, increase innovative capacity, engage in alliance and fund attraction to develop new knowledge, outsourcing (Huber, 2013; Boehm and Hogan, 2013; Phelps et al., 2012; Malik et al., 2012).

The last km practice related to this attribute is "Promote sourcing relevant knowledge, which is often distributed across organizations and individuals", which aims at knowledge creation, new product development, firm performance, commercialization of scientific knowledge, establish knowledge alliances and innovation facilitation (Hoegl and Schulze, 2005; Yang, 2010; Boehm and Hogan, 2013; Phelps et al., 2012).
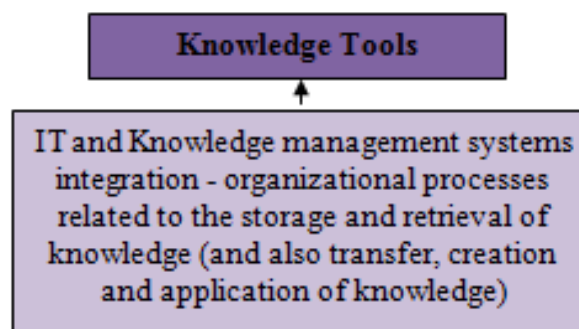
Figure 76 – New Ideas Generation Attribute "Knowledge Tools" link with KM Practices

The attribute "Knowledge Tools" is related with computer-mediated communication, facilitating, intensifying or expand the interactions, executions such as planning, designing, decision making, and implementing, organizational processes related to the storage and retrieval of knowledge, creation of organizational manuals, tacit shared understandings, planning actions and teaching-learning tools and strategies on effectiveness (Durmuşoğlu and Barczak, 2011; Raymond et al., 2010; Gaillard and Mercer, 2012; Noroozi et al., 2013; Hoegl and Schulze, 2005; Hoegl and Schulze, 2010).

Regarding the attribute "Collaboration between Organizations" it is related with share feelings, perceptions, and new product collaborative experiences, joint scientific programmes, share methods according to problems faced (De Pinho et al., 2011; Phelps et al., 2012; Hirunyawipada et al.2010; De Pinho Campos, Katia; Norman and Jadad, 2011;Schwilch et al., 2012).
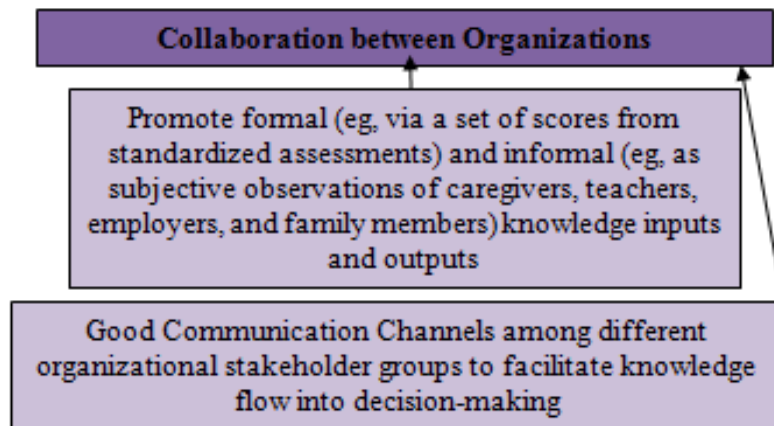
Collaboration between Organizations

Promote formal (eg, via a set of scores from standardized assessments) and informal (eg, as subjective observations of caregivers, teachers, employers, and family members) knowledge inputs and outputs

Good Communication Channels among different organizational stakeholder groups to facilitate knowledge flow into decision-making

Figure 77 – New Ideas Generation Attribute "Collaboration between Organizations" link with KM Practices

The KM practice "Promote formal (e.g., via a set of scores from standardized assessments) and informal (eg, as subjective observations of caregivers, teachers, employers, and family members) knowledge inputs and outputs", set of scores from standardized assessments, subjective observations of caregivers, teachers, employers, and family members, benchmarking and application of formal techniques and procedures, informal recruitment networks, formal and informal procedures to transfer knowledge, codify knowledge, informal workplace learning, informal social networks, good communication channels among different organizational stakeholder groups to facilitate knowledge flow into decision-making (Chau et al., 2013; Asquin et al., 2010, Davies, White, 2012; Zhang and Zhou,2013; Weidenfel et al., 2010; Spilg et al., 2012; Davies et al., 2012).
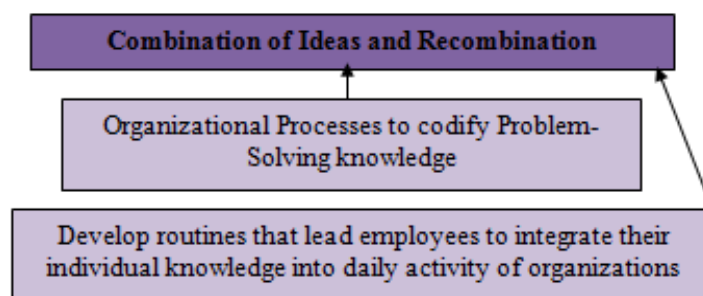
Combination of Ideas and Recombination

Organizational Processes to codify Problem-Solving knowledge

Develop routines that lead employees to integrate their individual knowledge into daily activity of organizations

Figure 78 – New Ideas Generation Attribute "Combination of Ideas and Recombination" link with KM Practices

The attribute "Combination of Ideas and Recombination" is related with embody knowledge into practices or by making it tacit through internalization, implement

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practices for knowledge creation, make team members aware of the necessity of explicit knowledge creation, making explicit knowledge easily accessible so that existing repositories of knowledge are reused, combine scientific knowledge with labour market knowledge, invest in the importance of external personal networks (Huber,2013; Adomßent, 2013; Anand et al., 2010).

This attribute is related to the km practices "Organizational Processes to codify Problem-Solving knowledge", which is related with diagnosing problem-solving knowledge from the organization, specific learning activities that focus on problem-solving, identify barriers to solving old problems, alternative sources of knowledge, continuous improvement through updating the best practices, foster experience, collective approach to problem solving, increase learning opportunities and improvement activities (Cooke et al., 2013; Allen and Gunderson, 2011; Huber, 2013; Spilg et al., 2012; Wang, Jha and Gong, 2010; Peer and Stoeglehner, 2013; Linderman et al., 2004)

The other km practice associated with this attribute is "Develop routines that lead employees to integrate their individual knowledge into daily activity of organizations", which envisions knowledge categorising to integrate knowledges, Formal interventions that focus on the improvement of the group process, foster team leaders initiative to extract and integrate knowledge of team members, integrate market intelligence data into knowledge building processes and sharing of experiences (Raymond et al., 2010; Yang, 2005; Anand et al., 2010; Yang, 2010; Hoegl and Schulze, 2005).
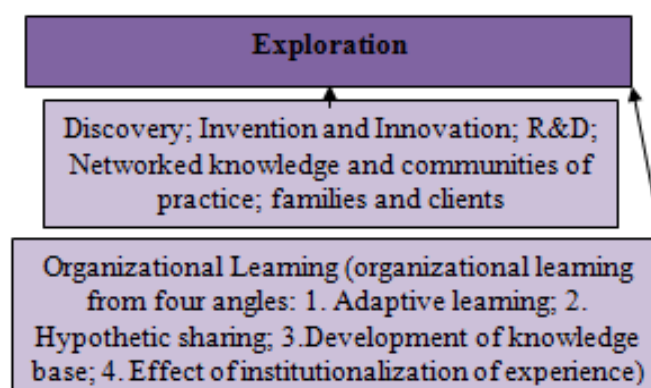
Figure 79 – New Ideas Generation Attribute "Exploration" link with KM Practices

The last attribute from new ideas generation is "Exploration" which is related with engaging top management in explorative learning, engage in organizational policies of reducing risk, avoid parallel exploration processes, systematic processes and structures to

foster creativity (Land et. al, 2012; Verma et al.,2011; Kornish and Ulrich, 2010; Bra et al.,2012).

This attribute is related with the km practice "Discovery; Invention and Innovation; R&D; Networked knowledge and communities of practice; families and clients", which aims at diagnosing knowledge gaps, continuous knowledge integrations (socialization, externalization, combination and internalization), enabling environment for any knowledge practice, Increase the number and quality of knowledge sources, synthesize and integrate interdisciplinary knowledge (Gaillard and Mercer , 2012; Chen and Chen, 2010; Reich et al., 2012; Fagerberg et al.,2012)

The other km practice is "Organizational Learning (organizational learning from four angles: 1. Adaptive learning; 2. Hypothetic sharing; 3.Development of knowledge base; 4. Effect of institutionalization of experience)" which is related with engage in exploitative learning refers to "the refinement and extension of existing competencies, technologies, and paradigms," and exploratory learning to "experimentation with new alternatives", develop knowledge from past experiences and the translate it into procedures, link the strategic role of cko´s with IT means and quality driven policies, and elaborate and refine the collective vision using a perspective of employee development sustainability (Land et al., 2012; Sluyts et al., 2011; Sher, and Lee, 2004; Peer and Stoeglehner, 2013).

The attributes selected in the survey for employee competence are "Firm-Specific Competence"(selected by 13 respondents), "Performance Antecedents"(selected by 6 respondents), the most significant attribute from is Competence Experience (selected by 17 respondents), Collective Skills (selected by 12 respondents), Decision-Making Competence (selected by 13 respondents), Enhance Competence (selected by 6 respondents), Activity Performace (selected by 11 respondents), Close Knowledge Gap (selected by 8 respondents) and Competence Acquisition (selected by 10 respondents).
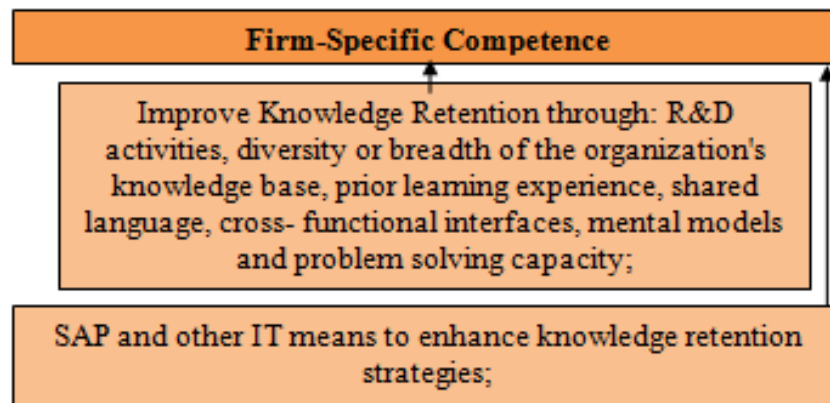
Firm-Specific Competence

Improve Knowledge Retention through: R&D activities, diversity or breadth of the organization's knowledge base, prior learning experience, shared language, cross- functional interfaces, mental models and problem solving capacity;

SAP and other IT means to enhance knowledge retention strategies;

Figure 80 – Level of Employee Competence Attribute "Firm-Specific Competence" link with KM Practices

The first attribute from this category "Firm-Specific Competence" is related with insights regarding customer needs, transfer of capabilities and experiences through specific firm dialects that circulate organizational mechanisms, build routines and systems integrated in firm-specific business processes, involve teams and experienced employees in the creation of routines, Performance Measurement Systems, combine the attraction of talented young candidates with experienced employees (Zhang and Zhou, 2013; Sluyts et al., 2011; Formentini and Romano, 2011; Marques, Gourc, and Lauras, 2011; Schwaer et al., 2013).

This attribute is related with the km practice "Improve Knowledge Retention through: R&D activities, diversity or breadth of the organization's knowledge base, prior learning experience, shared language, cross-functional interfaces, mental models and problem solving capacity" (selected by 11 respondents). This km practice is related with integration of tacit knowledge from employees and information system, engage in knowledge generation activities as observations, experiences and experimental actions, develop customer relationship performance, retain highly skilled and experienced staff, promote change management to allow the embedment of knowledge in routines, use of performance management systems to manage strategic aspects related with employees knowledge utilization and learning and multiprofessional teamwork to foster knowledge distribution and organizational learning (e.g., customer satisfaction, loyalty, and retention) (Sedera and Gable 2010; Menguc et al., 2013; Formentini and Romano, 2011; Cepeda and Dusya 2007; Biron et al., 2011).

The other km practice related to this attribute is "SAP and other IT means to enhance knowledge retention strategies" (selected by 17 respondents) which aims at increase the quality of retrieved knowledge from customers, use Talent Management jointly with organizational IT infrastructure, develop organizational capabilities through processes and routines, strategic decision making and alliance management, HR dynamic architectures that allow the deployment adaptation of its IT-based resources to improve organizational performance, and leverage multiprofessional teamwork to increase learning and job satisfaction (Khatri et al., 2010; Campbell, 2003; Cepeda and Dusya 2007; Lakanmaa et al., 2012).
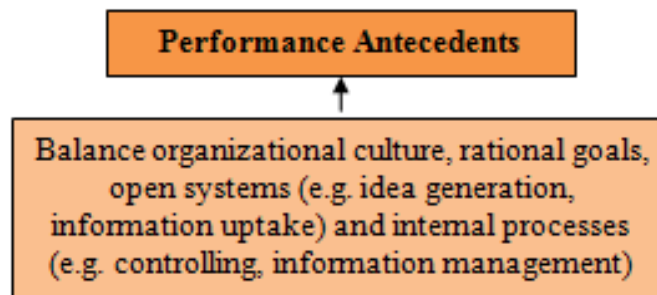
Figure 81 – Level of Employee Competence Attribute "Performance Antecedents" link with KM Practices

Another selected attribute from employee competence is "Performance Antecedents", which is related to conflict-handling strategies, inter-firm interactions, supply chain effectiveness, enterprise systems investments success and failures, and render explicit the antecedents and processes that foster team creativity (Li, Liu and Liu, 2011; Barnes and Liao, 2012; Sedera and Gable, 2010; Sung and Choi, 2012).

This attribute is related with a km practice "balance organizational culture, rational goals, open systems (e.g. idea generation, information uptake) and internal processes (e.g. controlling, information management)", which is related with the integration of organization's major goals, policies, and action sequences with internal competencies and anticipated changes in the environment, manage costumer knowledge creation, inter-organizational networks and outsourcing and in-house functions (Henriksen and Rolstadås 2010; Chen and Huang, 2009; Tissen et al., 2013).
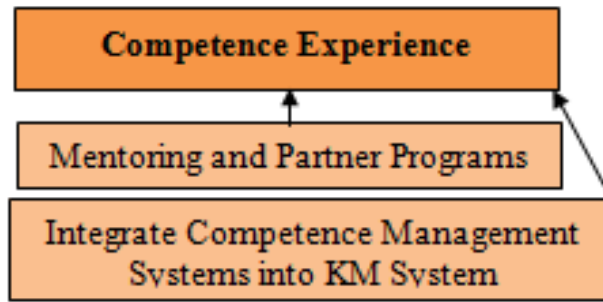
Figure 82 – Level of Employee Competence Attribute "Competence Experience" link with KM Practices

Another attribute from this category, "Competence Experience", is related to qualitative and quantitative competency standards, development of KM standards, increase technological expertise, increase decision-making capability, key competences, work experience development, work experience, on-the-job training, increased awareness and KM systems to the accumulation, exchange, and reuse of valuable experience (Hertlein and Smolnik, 2012; Humaidi et al., 2010; Pillai and Min, 2010; König et al., 2013; Rossem and Veen, 2011; Amjadi et al., 2011).

This attribute is related with the km practice "Mentoring and Partner Programs", selected by 14 survey respondents, job rotation, maintaining job satisfaction, increase trust, increase learning speed, competence identification, facilitate an interdisciplinary culture (Hertlein and Smolnik, 2012; König et al., 2013; Zhang and Zhou, 2013, Massingham, 2010; König et al., 2013, Biron et al.,2011).

The other km practice related to this attribute is "Integrate Competence Management Systems into KM System", selected by 17 respondents. This km practice is related to cost- time-quality gains, identify critical knowledge areas and skills that are necessary to respond to challenges, knowledge management strategy and organizational performance, development of core competence, leverage knowledge management to cultivate the corporate core competence, enhance innovation and knowledge utilization, assist R&D development, increase effectiveness of knowledge acquisition from external knowledge sources, increase decision making competence and absorptive capacity (Marques et al., 2011; Hwang et al., 2013; Yu, Yan-fei and Hai-lin, 2001; Xiang, 2009; Hao-yu, 2010; Arnett and Badrinarayanan, 2005; Petroni, Venturini and Verbano, 2013; Sluyts et al., 2011; Pillai and Min, 2010; Camisón and Forés, 2010).
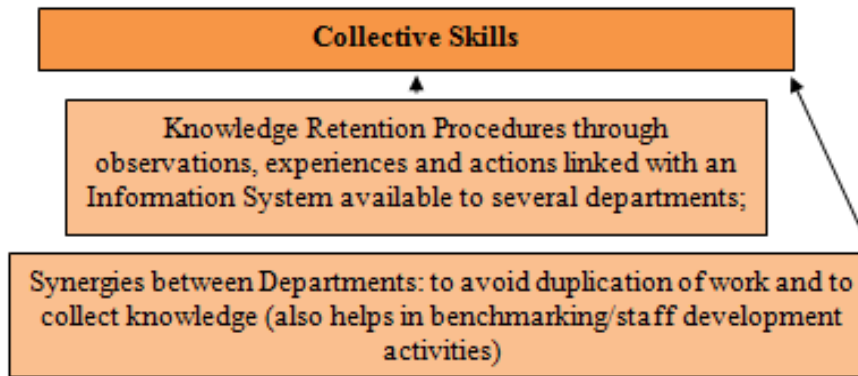
Figure 83 – Level of Employee Competence Attribute "Collective Skills" link with KM Practices

Another attribute selected by respondents for this category is "Collective Skills", which envisions to develop innovation and experience, long-term knowledge accumulation, integration of related knowledge and effective knowledge application, increase coordination, acquiring, developing tacit knowledge know-how and know-who, shared mental models , transactive memory systems, increase process or product competencies and cross-organizational settings (Yongquan, 2010; Hao-yu, 2010; Xiang, 2009; Jia, 2010; Sung and Choi, 2012; Fitz Patrick et al., 2013; Barnes and Liao, 2012; Navarro et al., 2010; Jolink and Dankbaar, 2010). This attribute is related to the km practice – "Knowledge Retention Procedures through observations, experiences and actions linked with an Information System available to several departments". This km practice is related to systematically active knowledge repositories, lower skill shortage, knowledge transfer formal and informal routes, avoid individual knowledge hoarding, solve knowledge sharing time constraints, enhance employee commitment and investment in IT structures and knowledge-sharing tools (Sedera and Gable, 2010; Formentini and Romano, 2011; Kamoche and Newenham,2013; Schwaer, Biemann and Voelpel, 2012)

The second km practice related to the attribute "Collective Skills" is "Synergies between Departments: to avoid duplication of work and to collect knowledge (also helps in benchmarking/staff development activities)", strategic alignment of HR and organizational performance mechanisms, organizational culture, change, organizational learning, multi-project management and mutual interaction among projects, engage in relational management, and capacity to allocate resources and activities that enable flexible collaboration (Khatri et al., 2010; Formentini and Romano, 2011; Hertlein and Smolnik, 2012; Li, Liu and Liu, 2011; FitzPatrick et al., 2013).
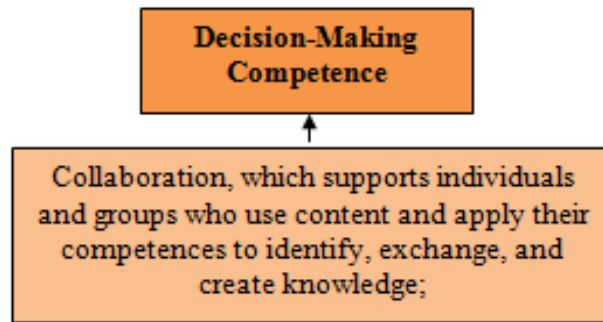
Figure 84 – Level of Employee Competence Attribute "Decision-Making Competence" link with KM Practices

Another attribute selected by survey respondents is "Decision-Making Competence". This attribute is related with developing competency standards, professional practice learning, reflective practice, enabling, problem-solving, enable inter-functional knowledge sharing, gather customer knowledge through customer relationship management, evidence base management, leader knowledge acquisition of new concepts, increase knowledge integration capability, identify dynamic capabilities as set of specific and identifiable processes and social skills development   identify the enterprise's core competence correctly (Lakanmaa et al., 2012; Arnett and Badrinarayanan, 2005; Humaidi, Anuar and Said 2010; Rossem and Veen, 2011; Taylor, Cheng, Yung and Tsai, 2011; Sher and Lee, 2004; Hwang and Ng, 2013; Yongquan, 2010).

The other km practice is "Collaboration, which supports individuals and groups who use content and apply their competences to identify, exchange, and create knowledge". This km practice is related with value co-creation, resource integration, interactivity, involving customers and suppliers in the innovation process, joint R&D projects, strategic collaboration, external knowledge sourcing through networks, balance internal and external processes of knowledge acquisition and knowledge development, engage in coorperative social interaction to solve problems across departments, embrace a organizational culture that fosters commitment and motivation and maximize employee collaboration using IT means (FitzPatrick et al., 2013; Petroni et al., 2011; Barnes and Liao, 2012; König et al., 2013; Li, Liu and Liu, 2011;Prieto et al., 2010; Chen, Wang and Ye, 2010).
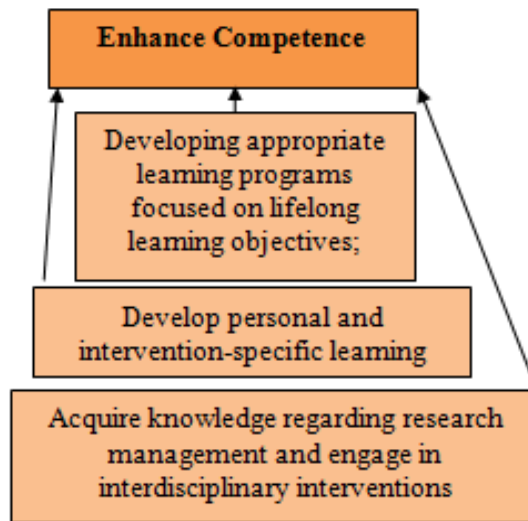
Figure 85 – Level of Employee Competence Attribute "Enhance Competence" link with KM Practices

Another attribute selected in the survey from employee Competence is "Enhance Competence". This attribute is related with knowledge capacity of gathering retaining knowledge, organizational learning activities, acquire ending-competence; staffing; elaborate competence profiles to track development and potential, leverage knowledge management to assist the development of the core competence of enterprises the organization, detect knowledge gaps, use knowledge brokers and (Campbell, 2003; Havila and Medlin, 2012; Hertlein and Smolnik, 2012; Jia, 2010; König et al., 2013).

The first km practice related to this attribute is "Developing appropriate learning programs focused on lifelong learning objectives", which envisions alliance learning mechanisms, codification of best practices, knowledge sharing programs, supervisory support to employee development, enhance expertise of key employees impact innovation, and development of skills related to the company information system in order to retain, use and share knowledge (Sluyts et al., 2011; Jolink and Dankbaar, 2010; Chen and Huang, 2009; Sung and Choi, 2012).

The second km practice related to this attribute is "Develop personal and intervention-specific learning" aims at learning from others experience, use social web and other IT means (e.g. semantic base platform), develop customer knowledge competence to generate specific knowledge, foster an organizational culture of trust to avoid knowledge leaks, develop a firm-specific learning in the environment characterized by high stability and low uncertainty, use strategic CKO insights regarding knowledge acquisition and formal training programs, use IT to avoid knowledge losses and to reduce dependence on

specific personnel (Taylor et al., 2013; Campbell, 2003; Zhang and Zhou, 2013; Kyläheiko et al., 2011; Navarro et al., 2010; Prieto et al., 2010; Schwaer et al., 2012; Sher and Lee, 2004).

The last km practice related to this attribute is "Acquire knowledge regarding research management and engage in interdisciplinary interventions". This km practice aims at non- systematized approaches to manage expert workforce, people management practices that enable high levels of autonomy to deal with highly contextual nature of specific knowledge, create interdisciplinary work-groups to deal with complex problems, job rotation, delegation of responsibility, integration of functions, performance-related pay, suitable organizational structure for the R&D function, and knowledge dissemination workshops (Khatri et al., 2010; Chen and Huang, 2009; Petroni et al., 2011; König et al., 2011).
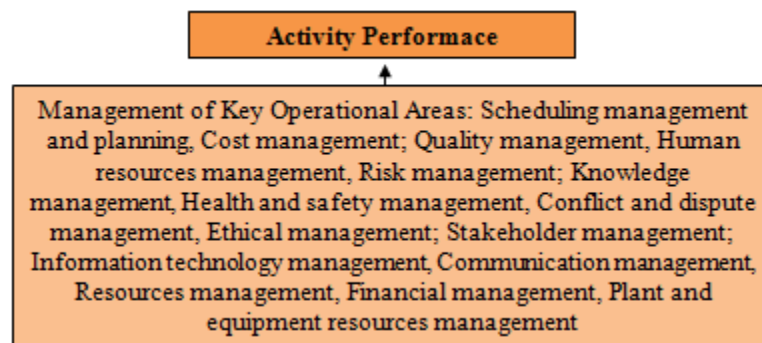
Figure 86 – Level of Employee Competence Attribute "Activity Performance" link with KM Practices

Another attribute from employee competence is "Activity Performance". This attribute is related with systematic and strategic coordination of business with a focus on improving the long-term performance, develop   the ability to generate, disseminate, and use closely knitted skills to achieve the best decision making performance of a firm, and developing new methods of knowledge triangulation, adapt, integrate, and re-configure internal and external organizational skills, resources and functional competencies whenever needed (Bellmunt et al., 2011; Pillai and Min, 2010; Kyläheiko et al., 2011; Yang 2010; Sher and Lee, 2004).

The attribute "Activity Performance" is related with the km practice "Management of Key Operational Areas: Scheduling management and planning, Cost management; Quality management, Human resources management, Risk management; Knowledge management, Health and safety management, Conflict and dispute management, Ethical

management; Stakeholder management; Information technology management, Communication management, Resources management, Financial management, Plant and equipment resources management". This km practice is related with continually create new capabilities, reduce uncertainty related to the operational activities, planning and coordination of activities between different organizations; identify and develop skills with direct impact on performance, develop scheduling skills, define policies designed to maximize efficiency with managers involvement, develop negotiation skills, leverage IT for scheduling necessities in interconnected projects, decisions regarding scheduling tasks to accomplish the selected option, establishing steps to monitor progress, and taking precautions to minimize risks associated with the selected goal are addressed, risk assessment report to control and predict costs, integrative planning, monitoring and controlling, business process reengineering to better serve customers, performance evaluation to monitor cost, time, and quality for the duration of procedures, adopt a total quality management system, leverage HR and IT capabilities to manage cost-responsiveness to customers in knowledge-intensive business, exchange activities between departments, including knowledge transfer, and include in legal contracts how knowledge should circulate between partners to decrease managerial conflicts, increase communication through formal and informal means in order to decrease conflicts between departments, ensure a common interpretation of 'value system' of the organization to ensure ethical management, establish access to knowledge repository of another department when necessary, relationship marketing to enhance relations with customers, integrative management, identification of critical knowledge and skill areas in order to manage them, use team knowledge management to promote financial performance, include intellectual capital intangibles generators of value in financial exercises and establish cooperation protocols with stakeholders to tackle common problems (Cepeda and Vera, 2007; Marques, Gourc and Lauras, 2011; Marques et al., 2011; Hwang and Ng, 2013; Formentini and Romano, 2011; Cheng and Tsai, 2011; Marques, Gourc and Lauras, 2011; Crawford, 2005; Rossem and Veen, 2011; Khatri et al., 2010; Zhang and Zhou, 2013; Arnett and Badrinarayanan, 2005; Powell and Swart, 2010; Kamoche and Kahindi, 2012; Hwang, Jian and Ng, 2012; Sung and Choi, 2012; Chang , Lee and Kang, 2005; Li, Liu and Liu, 2011).
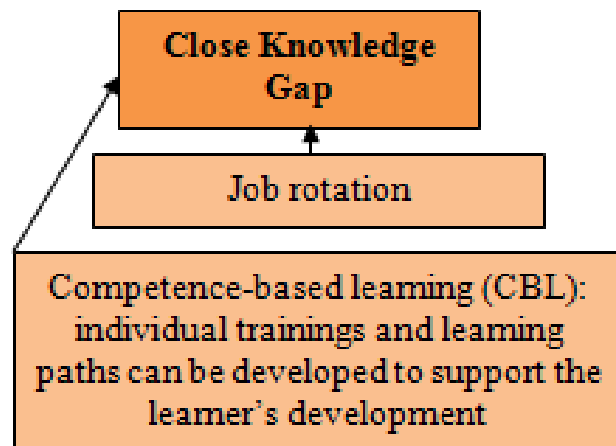
Figure 87 – Level of Employee Competence Attribute "Close Knowledge Gap" link with KM Practices

Another attribute from this category is "Close Knowledge Gap". This level of employee competence is related with mapping critical knowledge to diagnose strategic opportunities and knowledge and skill shortage, develop dynamic capabilities through on-the job training, identify market knowledge gaps, leverage IT in Competence-based learning, define specific knowledge needs, improve communication between different layers of disciplinary levels improving the interdisciplinary understanding of projects, keep track of employees' competence and performance and hire foreign human capital (Cepeda and Vera, 2007; Sher and Lee, 2004; Hertlein and Smolnik, 2012; Massingham, 2010; Biron et al., 2011; König et al., 2013; Iles et al., 2010).

This attribute is related to the km practice "Job rotation", wich implies develop the use of codification tools, knowledge alliances, promotion systems that can facilitate the distribution of interorganizational relationships within the firm, broader frame of reference and access to both technical and managerial knowledge, R&D-marketing rotation between different divisions of the firm, development and promotion of systems to achieve higher commitment of employees, attraction of better qualified applicants for new job positions, leverage HR practice to improve knowledge sharing in the firm with a functionally based organizational structure and culture, interdisciplinary work-groups, quality circles, collection systems of employee proposals, planned job rotation, delegation of responsibility, integration of functions, performance-related pay, firm internal training, and firm external training, foster a culture of openness to personal development and trust, training in team building, cross- based training, job rotation programmes

(Sluyts et al., 2011; Jolink and Dankbaar, 2010; Chen, Huang and Jing, 2009; Hertlein and Smolnik, 2012; Prieto et al., 2010; Jane Barnes, Ying Liao, 2011).

The other km practice is "Competence-based learning (CBL): individual trainings and learning paths can be developed to support the learner's development". This km practice is related with assessing the learner's competence positioning, individual trainings and learning paths, assessment of workforce competences through the implementation of competence management system, market knowledge competence to promote the integration of information of specific customer information, classification of competences, knowledge management competence development, customer-needs–driven CRM strategy, link the strategy to the definition of important competences and roles to be develop (Hertlein and Smolnik, 2012; Hertlein and Smolnik, 2012; Taylor et al, 2011; Campbell, 2003; Lakanmaa et al., 2012; Sedera and Gable, 2010; Arnett and Badrinarayanan, 2005; Lee, Tsai and Amjadi, 2011; Humaidi, Anuar and Said, 2010; Henriksen and Rolstadås, 2010).
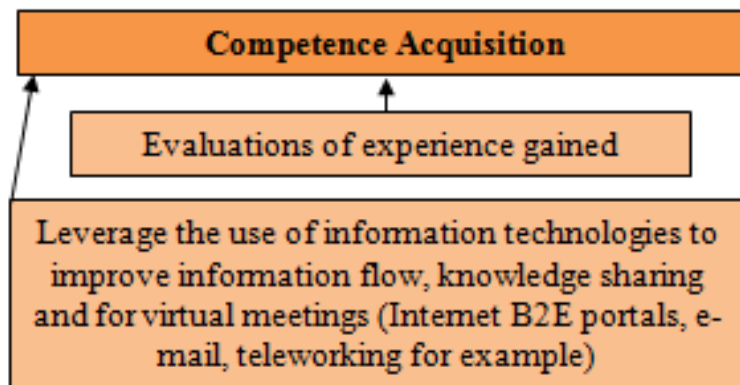
Figure 88 – Level of Employee Competence Attribute "Competence Acquisition" link with KM Practices

The last attribute from this category is "Competence Acquisition" which is related with
 knowledge alliances for learning and creation, convert abilities according to enterprise's external environment, knowledge re-use, collective learning through organizational processes, capture tacit knowledge and embed it organizational routines, develop ending-competence, constructive conflict resolution training Guang, 2011; Campbell, 2003; Havila and Medlin, 2012; Li, Liu and Liu, 2011).

The attribute "Competence Acquisition" is related with the km practice "Evaluations of experience gained". This km practice is related with mapping organizational process that

need improvement, training or mentorship, ensure effective knowledge transfers to a recipient, build an interdisciplinary culture that fosters communication and reflect on and refocus such internal processes, foster career development and promote human resource practices that lead 'psychological contract' (Gardner et al., 2010; Formentini and Romano, 2011; König et al., 2013; Kamoche and Kahindi, 2012).

The last km practice related to this attribute is "Leverage the use of information technologies to improve information flow, knowledge sharing and for virtual meetings (Internet B2E portals, e- mail, teleworking for example)". This km practice is related with supplier knowledge acquisition,top management facilitatation of adoption of new technologies, promote the utilization of km systems with technology using Internet, intranets, browsers, data warehouses, integrate the core competence through the intrinsic connection of multi-sector and product on the basis of staff's knowledge sharing, and investing in personalization and flexibility of learning and by using the opportunities that new technologies offer (Sher and Lee, 2004; Guang, 2011; Khatri et al., 2010; Hertlein and Smolnik, 2012; Schwaer et al., 2012). The assembled framework is presented in annex. The framework is displayed in Annex (Figures 90 to 96).

Chapter V - Conslusion

5.1 - Conslusion

The globalization has brought many challenges to the knowledge economy, like the increasing world market competitivenessand need for innovation, therefore organizations must implement KM systems in order to leverage their human capital´s potential and provide a better response to customers than their competitors.

This dissertation´s main objective was to define the main KM and HC paradigms and to explain their interaction through the development of a framework. Aiming to do so the developed work consisted in the literature review of the six dimensions of human capital (leadership, creativity, recruitment, motivation, new ideas generation and employee competence) and the 5 KM processes (knowledge acquisition, knowledge development, knowledge distribution, knowledge utilization and knowledge retention). There were analyzed 82 articles for Leadership, 69 articles for Creativity, 88 articles for Recruitment, 54 articles for Motivation, 69 articles for New Ideas Generation and 55 articles for Employee Competence. From this analysis it resulted a total of 59 HC Leadership

attributes and 154 KM practices, 67 HC Creativity attributes and 105 KM practices, 72 HC Recruitment attributes and 135 KM practices, 51 HC Motivation attributes and 85 KM practices, 93 HC New Ideas Generation attributes and 129 KM practices, 79 HC Level of Employee Competence attributes and 133 KM practices.

The next step was to develop a survey to select the most valued HC attributes and KM practices according to health care workers. The survey respondents work in five private clinics and in four hospitals in Lisbon and Algarve, encompassing medics, nurses, administrative personnel and HR personnel. From the survey resulted a list of 9 HC Leaderhsip attributes related to KM 55 practices, 16 HC Creativity attributes related to 22 KM practices, 10 HC Recruitment attributes related with 20 KM practices, 7 HC Motivation attributes related with 24 KM practices, 9 HC New Ideas Generation attributes related to 27 KM practices, and 10 HC Employee Competence attributes related with 16 KM practices.

The final analysis consisted in developing a framework that relates the HC attributes and the KM practices of the six HC dimensions.

The leadership attributes "Coordinator", "Transactional" and"Formal Leadership" are related to each other. These attributes are associated with the KM processes of knowkedge distribution, knowledge development and knowledge utilization. The attributes "Transformational", "Maintains Relationships", "Attentive to Followers Needs" and "Charismatic" are related. The main KM processes related to this attributes are knowledge distribution, knowledge development and knowledge utilization.

The leadership attribute "Motivational" is related to the two above mentioned groups, through the attributes "Formal Leadership" and "Transactional". The main KM processes related to this attribute are the same described above.

Regarding the Creativity attributes, there is relatedness between the attributes "Diversity" and "Thinking" (Styles/Skills/Organizational/New)". Theses attributes are related with the KM processes of knowledge acquisition, knowledge development, knowledge retention and knowledge utilization.

The attributes "Performative", "Advantage", "Capability", "Experience" "Organizational", "Learn", "Change" and "Innovation" are related between each other. These attributes involve knowledge acquisition, knowledge distribution, knowledge utilization and knowledge retention.

The attributes "Collective", "Ideas", "Interaction", "Group" and "New" share common purpose and are maily associated with KM processes of knowledge acquisition, knowledge distribution and knowledge development.

Lastly in Creativity attribute "Workplace" is related with both the attributes "Group" and "Change". These attributes are concerned with the KM processes of knowledge acquisition, knowledge distribution and knowledge development.

Regarding the Recruitment attributes, the attributes "Commitment", "Retention", "Organizational Culture", "Diversity" and "Experience" since they are inter-dependent and have relation with km practices that focus on knowledge distribution, knowledge development, knowledge utilization and knowledge retention. The attribute "Experience" is also related with the attributes "Skills (Hard)", "Qualification" and "Selection (External)". These attributes are related with the km practices knowledge acquisition, knowledge development, knowledge distribution and knowledge retention. The attribute "Costs" is associated with the attribute "Retention". These attributes are related with the km processes knowledge development and knowledge utilization.

The Motivation attributes "Incentive", "Knowledge Sharing", "Attitude", "Create Knowledge" and "Collaboration" are inter-related sharing some km practices. The attributes "Organizational Values" and the attribute "Learning Environment" are related, being the second attribute dependent on the first. These attributes are related with the KM process knowledge acquisition, knowledge development, knowledge distribution, knowledge utilization and knowledge retention.

The New Ideas Generation attributes "Integrate Expertise and Knowledge", "Exchange Experiences", "Collaboration of Ideas and Recombination" and the attribute "Combination of Ideas and Recombination"are related having similar km practices that focus knowledge development, knowledge distribution and knowledge utilization. From this set of attributes, "Integrate Expertise and Knowledge" is related with the attribute "Knowledge Tools".These attributes are related to KM processes of knowledge acquisition, knowledge distribution and knowledge development .The attribute "Innovation Strategy", "Service and Product Improvement" and "Innovation Strategy" are related between each other. These attributes are related with the KM processes of knowledge development, knowledge utilization and knowledge retention. From this set of attributes, "Innovation Strategy" is related with the attribute "Adoption of New Ideas".

In the last set of attributes, from the dimension Level of Employee Competence, the attributes "Firm Specific Competence", "Enhance Competence", "Performance Antecedents", "Competence Acquisition", "Competence Experience", "Decision-Making Competence", "Activity Performace" and "Collective Skills" are inter-related. These attributes are associated with km practices that prompt knowledge acquisition, knowledge distribution, knowledge development, knowledge utilization and knowledge retention. The attributes "Collective Skills" and "Competence Acquisition" are associated with the attribute "Close Knowledge Gaps", which are related with km practices that foster knowledge acquisition, knowledge development, knowledge utilization and knowledge retention.

5.2 – Future Work Suggestions

In relation to the performed study, it would be relevant to develop an IT software capable of simulating the relation of the selected HC six dimensions attributes of the framework with the KM practices related to these attributes. This IT solution would be useful to test and simulate the km activity of a real organization in order to understand how the dynamics of KM and HC of the selected organization would evolve. Furthermore it would be interesting to test the implementation of this framework to control and appreciate it´s development in practice, realizing opportunities to improve and advantages of it´s use.

It would also be interesting to elaborate a new survey to investigate the extent to which employees and managers evaluate the benefits of the implementation of this framework in order to validate with an accurate degree of objectivity what are the most usefull km procedures from the framework to develop the HC dimensions and how they improved in practice.

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ANNEX I

Survey

Please select five attributes of the following six human capital dimensions that you find more relevant. After this procedure, according to your professional experience in the health, please select the Knowledge Management practices that you would use to support them.

State your position in the organization:

- -

Attributes

Please select 5 attributes for Leadership

Coordinator ☐

Formal Leadership ☐

Transformational ☐

Inspirational ☐

Orientation Provider ☐

Intelligent ☐

Charismatic ☐

Informal Leadership ☐

Maintains Relationships ☐

Motivational ☐

Decision Maker ☐

Attentive to Followers Needs ☐

Transactional ☐

Please select 5 attributes for Creativity

Techniques ☐

Time ☐

Training ☐

Generation ☐

Conflict ☐

Skills ☐

Construct ☐

Complex ☐

Social ☐

Creation ☐

Behavior ☐

Combination (Internal/External) ☐

Personality ☐

Dynamic ☐

Team ☐

Competitive ☐

Autonomy ☐

Process ☐

Workplace ☐

Performative ☐

Project ☐

Tacit ☐

Environment ☐

Critical ☐

Explicit ☐

Solution ☐

Change ☐

Advantage ☐

Thinking (styles/skills/original/new) ☐

Capability ☐

Organizational ☐

Interaction ☐

Innovation ☐

Group ☐

Diversity ☐

Learn ☐

Experience ☐

Collective ☐

New ☐

Ideas ☐

Please select 5 attributes for Recruitment

Implementing ☐

Strategies ☐

Diversity ☐

Selection (External) ☐

Qualifications ☐

Policy ☐

Retention ☐

Costs ☐

Organizational Culture ☐

Capabilities ☐

Staffing ☐

Activities ☐

Experience ☐

Commitment ☐

Skills (Hard) ☐

Please select 5 attributes for Motivation

Learning Environment ☐

Incentives ☐

Create Knowledge ☐

Climate ☐

Commitment ☐

Behavior Proactivity ☐

Attitude ☐

Collaboration ☐

Organizational Values ☐

Knowledge Sharing ☐

Please select 5 attributes for New Ideas Generation

Entrepreneurship ☐

Idea Economic Value ☐

Exploitation ☐

Context Specific Factors from the Firm ☐

Sustainable Competitive Advantage ☐

Conversion of Knowledge from Tacit to Explicit and Explicit to Tacit ☐

Flexibility of Processes ☐

Intangible Assets ☐

Exploration ☐

Combination of Ideas and Recombination ☐

Collaboration between Organizations ☐

Innovation Strategy ☐

Exchange Experiences ☐

Knowledge Tools ☐

Shorten New Product Time Cycle Production ☐

Partnerships and Alliances ☐

Risk Taking ☐

Communicate Clearly an Idea ☐

R&D ☐

Adoption of New Ideas ☐

Service and Product Improvement ☐

Integrate Expertise and Knowledge ☐

Please select 5 attributes for Level of Employee Competence

Core Competence ☐

External Competence ☐

Building Competencies

Enhance Competence ☐

Performance Antecedents ☐

Decision-Making Competence ☐

Competitive Advantage ☐

Training Competence ☐

Skill Assessment ☐

Strategic Competence ☐

Firm-Specific Competence ☐

Competence Transfer ☐

Competence Experience ☐

Close Knowledge Gap ☐

Competence Acquisition ☐

Activity Performance ☐

Collective Skills ☐

KM Practices

Please select 10 KM practices

Leadership KM Practices

Attend Lecture Series and Special Speaker Series ☐

Team Knowledge Assessment or Audit ☐

Leveraging Technology in Education (Schools/College Institutions) deploying web-based courses ☐

Team Knowledge Application & Team Knowledge Reuse ☐

Provide Mechanisms and Processes to create a "Smart" Organization (to learn from experience-based knowledge and transfer it into new knowledge in the form of product and/or service innovations) ☐

Team Continuity/Consistency ☐

Customized Assortment of Communication Tools - Define synchronous (presential meetings) and asynchronous communication (e-mails) ☐

Sharing the Same Physical Space: Project Debriefings/Social Events ☐

Tools that Aggregate Individual Knowledge ☐

Leadership Research (business knowledge and behaviors; information search; acquisition and use) as part of a Decision Situations Systematic Examination of leaders ☐

Instituting Programmes of Internal and External Knowledge Transfer, Establishing Communities of Learning, Knowledge-Based Human Resource Strategies, and IT- Based Knowledge Management Systems - Dissipate the NIH (not invented here) syndrome ☐

Chief Knowledge Officers, Chief Learning Officers and Chief Privacy Officers ☐

Identify Intermediate Goals Leading up to Acquisition Performance ☐

Executive Development ☐

Use HR Practices to Link knowledge of Leader´s and their competencies and tasks to organizational strategy ☐

KM champions/CKO ☐

Incentive System ☐

Selection Procedures ☐

Brainstorming, Break-Out Meetings, Focus Groups (make sure novices learn from experts) ☐

Performance Goals ☐

Knowledge Creation Activities through Experimentation or Conceptual Collaboration in the Team (creation of Knowledge Artifacts; Team Presentation s or Q&A Sessions; Common Mistakes and Main Causes) ☐

Aligning KM with competency management, performance management, and change management as part of the human capital strategy ☐

Ensure maintenance of Integrity of Customer Data/ Privacy Standards are maintained ☐

Lessons Learned for Future Activities ☐

Top Management Explicit Values & Norms Statement (trust/openness/courage) ☐

Promote a Knowledge Sharing Culture (Socio-Organizational and Culture as drivers) to maximize return on: tangible and intangible knowledge assets and resources such as the tacit knowledge/competencies/experiences ☐

Changes that Occur with KM Implementation: Strategically/Structural/Environmental (attitude of employees) ☐

Changes that Occur with KM Implementation: Strategically; Structural; Environmental (attitude of employees) ☐

Hire Externally ☐

B2B Information Exchange ☐

System tracking of: employee expertise, training, aptitude, and other interests ☐

Training Programs ☐

Fund "Applied Research"; Publishing Scientific Journals; Partnerships with Research Centers; Engage in an Agenda of Open Network Relations for Knowledge Production ☐

Communication-based technology (e.g.-mail, video conferencing) ☐

Aligning KM with competency management, performance management, and change management as part of the human capital strategy ☐

Knowledge Leader (impact of senior leadership on knowledge management to effective performance of organizations) ☐

Identify Sources of Business Data and Information - brought together and co-ordinated selected and shared; disseminate such knowledge to various parts of the organization through technological networks and/or sociocognitive (social networks) ☐

E-mail Networks; Information Systems; Knowledge Management Systems – Technological Knowledge Network Six-Sigma (Quality/Knowledge Development)/using cross-divisional and cross-functional teams ☐

Dissipate Knowledge Hoarding Culture (through cooperative Involvement, trust and incentives) ☐

Exploit Existing Knowledge ☐

Explicit definition of the Communication Channels desired within the Team (e.g e-mail policy) ☐

Organizational Strategic Planning ☐

KM Software Tools ☐

Promote a Knowledge Sharing Culture (Socio-Organizational and Culture as drivers) to maximize return on: tangible and intangible knowledge assets and resources such as the tacit knowledge; competencies; experiences ☐

Structural Closure: important in interpersonal networks, to foster shared behavioral norms and knowledge-sharing routines, curbing opportunism in collaborative networks, with higher innovative outputs ☐

Unit Based File Coordinator (Implement and coordinate a standardized filing system, regular quality audits and standard of entries, who can preserve paper-based records, and ensure that records are complying with Data Protection and the access needs ☐

Establish common Values and Knowledge (through reliance on networks) and Management through Professional Norms and Information ☐

Transmit to employees that they are the creators/transferers of knowledge and users centering their attention on KM efforts (getting the right knowledge to the right people) ☐

Training ☐

Retrieve Knowledge from various sources interlocking it with data ☐

Mobilize expert knowledge within the organization ☐

Institutionalizing Knowledge Sharing Incentives ☐

Leaders' collaboration across departments of the organization ☐

Network Resource Sharing ☐

Promote interaction and communication in social settings to drive knowledge sharing (synthetization of individual knowledge) ☐

Train employees better equipping them with the latest skills (train developed internally or externally) ☐

Win Knowledge Resources through contacts with the community (e.g. conferences; education; industry networking; collaborative networks of researchers) ☐

Create Social robust Knowledge in Interaction with Society and Stakeholders (Organizational Initiatives of Social Responsibility) ☐

Managing Communications between Operational Areas and External Stakeholders ☐

Lead Privacy Issues (government/legislative bodies and industry leaders) ☐

Promote New Application of Previous Knowledge ☐

Provide knowledge regarding stakeholders´ goals in relation to team´s work ☐

Implement a Knowledge Dissemination Measurement Framework ☐

Increase the capacity to learn from Past Failures and Successes in Strategic Decision-Making; Deepening the knowledge Base of the Company (reaching knowledge Embedded on Products and on Employees) ☐

Organizational Culture that fosters Cooperative Involvement (Trust linked with Incentives; Combine technology with the organizational culture conducive to knowledge creation and sharing) ☐

Implementing and linking Sustainably (Through a conceptual framework with Organizational Practices) ☐

Converting Public Relation and Communication Knowledge and Expertise into Effective Tactics and Strategies ☐

Segmenting and Catalogue Knowledge Assets (increase its protection) ☐

Systematic Reviews or Lessons learned sessions ☐

Team Knowledge Elicitation ☐

Strategic Alliances for Learning (developing forums with different groups; job rotation; personnel transfers; ongoing training and development programs; sharing knowledge through written documents; joint ventures for knowledge acquisition purposes) ☐

Enable Exchange of Tacit Know-How, Skills, and Abilities ☐

Qualifications for Jobs ☐

Benchmark (Role Model) ☐

Team Knowledge Development ☐

Promote the contribution of long-term employees to provide Innovative Ideas and implement them (Extensive Experience and Deep Knowledge) ☐

Performance Evaluation linked to IC Retention ☐

Mutual briefings and Updates ☐

Leverage, Protect and Preserve existing Knowledge Resources (Make Knowledge Inimitable and Non-substitutable) ☐

Increase the Capacity to Learn(Past Failures and Successes in Strategic Decision-Making; Deepening the Knowledge Base of the Company; reaching Knowledge Embedded on Products and on Employees) ☐

Embodied competencies into organization´s norms and values ☐

Maintained ongoing ties with Academia ☐

Mentoring ☐

Developing Protocols for Internal Access to Knowledge Assets of the Organization (Sharpening Up of Internal Access Procedure) ☐

Professional Circles and Non-formal meetings (using a social setting outside the company to discuss professional topics are approached to promote Creativity and Innovation) ☐

Use HR Practices to support Climate for Learning at an individual and group levels ☐

Internal Journals (enable employees to share their ideas and experiences across the organization) ☐

Programs to increase focus in Monitoring Quality Management ☐

Strategic Management and Leadership Performance Implementation ☐

Improve Team´s Knowledge Processes (team matrix, the expert web, the project compass, visual protocolling, or lessons learned repositories) ☐

Leveraging Best Practices throughout the Organization to Exploit Core Competencies ☐

Promote Efficiency, Adaptability and Innovativeness ☐

Lead and Promote the Knowledge Management Agenda ☐

Knowledge Repositories ☐

Work-Based Learning and Capability Development through Specialist Training ☐

Embedding Knowledge into the Work Practices and Processes ☐

Process Teams, Taskforces, Management Teams and Advisory Teams ☐

Administration and Management Allegiance to conduct KM efforts ☐

Development of Ethical Knowledge (According to the Law) ☐

Please select 10 KM practices

Creativity Practices

Near-Net-Shape Casting: Integrating in-house expertise with the Knowledge of Industry Experts and Suppliers ☐

Leadership support to encourages teamwork cohesion, organization learning, implement action of innovation (technical and administrative) ☐

Provide rich cognitive resources and make diverse approaches available in order to increase team knowledge stock and opportunities to recombine existing information and ideas (Content Approach; Process Approach) to improve innovation ☐

Distributed Work Arrangements, use Multi-Unit Organizational Form, and Interorganizational Relationships (mergers; acquisitions; alliances) ☐

Collaborative Work to increase creativity (pooling together and integrate effectively different perspectives, knowledge, skills, and abilities on a task) ☐

Identification of new market opportunities through the contribution of employees with valuable knowledge and skills (which are also most flexible in acquiring new skills) to impact innovation ☐

Sources of External Knowledge to use in new product development: Suppliers, Customers, Consultants, Benchmarking, Reverse Engineering, Patent Applications, Scientific and Trade Publications, and Conferences ☐

Network building and Systematic Dissemination of ideas; Professional Networks ☐

Foster Team Demography Diversity ☐

Acquire Knowledge from the external relationships (by the interactions with external organizations – the better the capabilities of thinking and product differentiation improve) ☐

Management education training (help employees gain the proper knowledge and skills needed to meet the environmental challenges.,spport of organizational growth and advancement, through foruns for the communication of organizational strategies, new values, tools, and work performance improvement) ☐

Balance HR Practices regarding Exploration and Exploitation ☐

Experience can be acquired directly by the focal organizational unit or indirectly from other units ☐

Promote the utilization of transactive memory systems; shared mental models; prior experience (to enhance group performance) ☐

Executives with long experience in an industry bring detailed knowledge about how that industry operates ☐

Team learning (cross-fertilization of team members and flow of ideas within the team) ☐

Team Members Knowledge Contribution: 1- Reward team members' contribution 2. Create a trust atmosphere to share knowledge; 3.management support to appropriate communication channels (make team members feel their contributions are appreciated) ☐

Action Learning Methods (small groups; learning set; set advisers, a problem/task focus, outcomes focusing on real time action, opportunity for reflection for all learners) ☐

Measuring Organizational Performance in KM, categorized into four groups: financial measures, intellectual capital, tangible and intangible benefits, and balanced scorecard ☐

Organizational Learning corporate culture that determines values, beliefs, work systems, encourage learning and knowledge sharing guiding change and innovation ☐

A certain norm of behavior is a set of shared values and beliefs within an organization and is shaped by the interactions between its members. Its existence within an organization will directly or indirectly affect members' behavior and the implementation of change ☐

Change Management – necessary management skills to effect change by exploring the characteristics and tools of a change process (e.g., strategic communication) ☐

Promote Customers Involvement (e.g. consumers designing a prototype to be used as a model for a product) ☐

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Promote Customers/Patients Involvement (e.g. consumers designing a prototype to be used as a model for a product) ☐

Promote Reward System that fosters Creativity and Motivation ☐

Exploitation of Network Sources ☐

Offering Training Opportunities to increase individuals' knowledge base or their creativity relevant skill ☐

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Mechanisms to assist and enable the management of knowledge and innovation to foster creativity ☐

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Organizational Learning corporate culture that determines values, beliefs, work systems, encourage learning and knowledge sharing guiding change and innovation ☐

Collective problem-solving processes ☐

Heterogeneous Team Assemblance (knowledge and information diversity) ☐

Knowledge Management Systems to mobilize knowledge and enhance decision-making ☐

Enhancing Quality Performance Procedures: Training; Small Group Problem Solving ☐

Employee Suggestion; Cross-functional Interventions ☐

Vicarious Learning - Learn indirectly from the experience of other units as well as directly from their own experience ☐

Executives with long experience in an industry bring detailed knowledge about how that industry operates ☐

Team learning (cross-fertilization of team members and flow of ideas within the team) ☐

Please select 10 KM practices

Recruitment Practices

Lifetime Employment; Seniority-Based Reward (e.g. Promotion); Enterprise Unionism ☐

Strong Company Philosophy; Unitary Corporate Culture; Long-Range Staff ☐

Development Planning; Consensus Decision Making ☐

Proposals for new programs, changes to existing programs ☐

The job specification lists (of the knowledge, skills and abilities required for applicants to carry out the job duties and achieve performance standards) ☐

Recruitment & Selection Planning Phase (job analysis; review and development of a job description; job specification and person profile for a particular vacancy; development of a competency framework; deciding on the selection criteria and methods) ☐

Socio-Spatial Knowledge Networks: (1) identify strategic locations within a community for future interventions and, (2) evaluate the effectiveness of existing interventions (e.g. population groups prone to diabetes) ☐

Diversity Management - effective recruitment and management of people which are diverse in terms of gender, culture, race, age, religion, language and nationality ☐

Construct detailed job description that contextualizes and provides background information of the position, the job duties and the performance indicators ☐

Establish and maintain an effective communication system - providing HR professional advices for the business (Manage the HR function within the business, develop HR associates, increase the team productivity and service level) ☐

Diversity Management practices and the attraction of high achievers (Women and minority recruitment) ☐

Employment practices that create attractiveness (strong opportunities for career growth and development, for potential job applicants ☐

Implement Competency Frameworks to Enhance Performance ☐

Top-down policy programmes of self-management support has to increment effective chronic disease management ☐

EPP (Expert Patients Programme) - improve self-efficacy; enable participants to more effectively manage their condition through courses that focus improving communication skills improvement the patient–professional relationship ☐

Job Analysis (gathering and recording of information on a job /creating the job description and the job specification) ☐

Self-Management (Chronic Care) - group programs; content tailored to participants; disease-specific programs or generic programs ☐

Develop and implement HR tactics and action plans in the organization to support the departments in achieving the business objectives ☐

Culture of Inclusion - enables people with distinct experiences, mental models and ways of understanding the world to work together in order to achieve individual, collective and organizational growth ☐

Evidence-informed Decision Making - consideration of the best available research evidence along with other important factors that influence program and policy decisions ☐

Performance Management of Individual Contribution (combining quality of care provided and the amounts) ☐

Internal Labour Market Policies ☐

Environmental Management System: 1- Provide training; 2- Guarantee effective communication; 3- Motivate employees ☐

Salary with a Fixed-Base Component combined with a variable component (performance-related) ☐

Diversity Management Procedures focusing in enhancing creativity, innovation and decision-making (promoting the inclusion of individuals into formal programmes and informal networks) ☐

Advice given by health professionals from other areas ☐

Human Capital Management - attract, develop and retain employees' with diverse knowledge bases ☐

Control on staff recruitment and transfers in line with health service needs ☐

Please select 10 KM practices

Motivation Practices

Empowering Leadership (favors knowledge utilization) ☐

Knowledge transfer and exchange between researchers and users in the healthcare sector ☐

Leadership involvement to create Work Environments and an Organizational Culture that influence attitudes towards Knowledge Sharing ☐

Engage in Formal knowledge governance (organizational structure, routine practices) and Informal knowledge (governance mainly involves networks, culture) ☐

Recordkeeping of day-to- day operations, to improve future decision-making ☐

Promote the creation of shared representations, interpretations, systems of meaning, and knowledge bases ☐

Knowledge Governance through its structure, reward systems, job design and leadership, networks, company culture, management style, organization fairness and managerial support ☐

External Adaptation and Internal Integration through organizational culture (shared values, assumptions, beliefs, and behavioral norms) ☐

Solid policies and practices that evaluate accurately employee performance and recognition systems ☐

Creating an Employee Scorecard (GARP®) for tracking employee performance metrics in order to improve the performance of an entire organization, department, or a small team to drive future performance   □

Manage Organizations´ information gather not only in traditional formats (files; paper) but in information technology systems   □

Computer-supported collaborative learning (CSCL)   □

Development of networks as channels promoting the relation between firms or units in a value chain, as well as social relationships between decision makers or players   □

Integrate business processes with (e.g. routines, R&D, and technical support) and project/service/product processes that tend to be temporary and unique (e.g. project-specific knowledge and know-how)   □

Methodologies that rely on retrospective data from critical incidents of knowledge transfer (e.g., best practice, innovations) whose merits have been previously recognized   □

Training (including acquisition of management skills, technology, and cross-cultural under- standing)   □

HRM mechanisms to enhance trust and performance (to deal with control, trust, and conflict issues)   □

Proactive Policy of Management of explicit and implicit knowledge developing employees´ competencies in knowledge management and in promoting knowledge sharing □

Supervisory control for motivating knowledge sharing, incentive programs, and efficient communication platforms (e.g. SAP) and /or to induce cooperation among community members, offering the opportunity of self-coordinated behavior   □

Categorize the Knowledge of the Organization Journals; electronic databases; map relevant domains (e.g. critical organizational studies; disciplinary fields)   □

Encourage individuals to contribute to the collective knowledge of the firm and to enhance their own knowledge base through "knowing exactly what they know" programs □

Communities of practice (COPs) and other practice-related social networks (to share thoughts, find solutions, and pursue innovation)   □

Network technologies to facilitate interaction among learners for acquisition or sharing of knowledge □

Decision Making and Control Mechanisms (conducive to good communication and effective monitoring of the collaboration need to be developed)   □

Web-based technology tool for supported collaborative learning (also may enrich learning performance, individual knowledge construction or group knowledge sharing) ☐

Identifiy the availability of knowledge as a facilitator of knowledge transfer and implement practices to increase knowledge availability (e.g. employees allocated between units to share routines developed in their original unit with their new unit ☐

Managerial actions to promote knowledge sharing through proper environment/corporate culture (at different levels individuals, groups, departments and other) ☐

Enhance Perceived Organizational Support (POS) to promote employee retention ☐

Writing unshared knowledge into the joint handout ☐

The transfer of routines, tools, and technology across units within the organization ☐

Create transparent communication systems, for free-flow of information with real time accessibility of information (about goals, resources, strategies, and achievements etc.) promoting the participation of user ☐

Promote Knowledge Sharing Monetary Reward (from different parts of the organization) and/or Social Reward ☐

Experience through observation procedures focusing in acquiring tacit and explicit knowledge ☐

Implement Employment System with an Efficiency Orientation - on-the-job training and senior retention that furthers an approach of bureaucratic regulation and can be associated with the internal labor market archetype ☐

Professional virtual communities (PVCs -gather geographically dispersed, like-minded people to form a network for knowledge exchange) ☐

Promote Knowledge Sharing through monitoring mechanisms, reward policies or social planning ☐

Mentoring Programs- emphasizing developmental contacts and interpersonal relationships ☐

Efficiency Strategy - Development of expert knowledge of young employees to become specialists in a certain function, exploitative learning mode focused on improving and reconfiguration of successful processes and established routines ☐

Transactive Memory Systems and Common Short-Hand Languages (affect members' ability to create, retain, or transfer knowledge) ☐

High-Commitment Work Systems to built firm-specific knowledge and firm-specific communication channels and values ☐

Please select 10 KM practices

New Ideas Generation Practices

Talent Management - collective approach to recruit, retain and develop talent within the organization for its future benefit ☐

Communities of practice; trade fairs; personal acquaintance ☐

Promote knowledge productive practices both, individual and social to align them with other processes ☐

Informal Knowledge Channels (reading literature and patent specifications, monitoring competitors, recruiting specialists, and participating in trade fairs and conferences) ☐

Six Sigma Black Belt Projects – development of measures of explicit- and tacit-knowledge-creation practices in process improvement ☐

Assistive Technology Information Network: service history of rehabilitation technologies, consumer feedback, external product reviews, standard operating procedures and frequently asked questions may be among externalized, documented knowledge ☐

TM fosters 'employer brand' and 'workforce segmentation' in order to attract and retain individuals ☐

The empowerment of individuals is vital, in order to encourage experimentation with new approaches to how business is conducted and the development and utilization of knowledge and skills ☐

Chief Knowledge Officer supervision of the right knowledge for utilization after dissemination ☐

TM fosters 'employer brand' and 'workforce segmentation' in order to attract and retain key employees ☐

People-oriented soft practices for capturing tacit knowledge for intervention success, more analytical focused practices to capture explicit knowledge ☐

Talent Management as a core competency of the organization (identify strategic human resources) ☐

Good Communication Channels among different organizational stakeholder groups to facilitate knowledge flow into decision-making ☐

Value Internal and External Knowledge Outputs - patents, knowledge, employee skills and capabilities, institutional knowledge, experiences around therapeutic protocols or

testing methods, knowledge about client preferences and compliance, which is inscribed in relations among clinicians, researchers, and families □

Promote sourcing relevant knowledge, which is often distributed across organizations and individuals □

IT and Knowledge management systems integration - organizational processes related to the storage and retrieval of knowledge (and also transfer, creation and application of knowledge) □

Information generating activities – routine sales and management meetings with customers' stakeholders' information and requirements □

Integrate employees´ perspectives (personal values, beliefs, and knowledge) with Stakeholder/Environmental information/Environmental expectations/Product development □

Promote knowledge acquisition mechanisms to acquire, develop and use knowledge (inside and outside the organization) □

Identify, Collect, and Compile product/service/intervention development relevant information from stakeholders comparing it with internal stakeholders' perspective □

Adopt and develop a knowledge management agenda aided by a Chief Knowledge Officers (CKOs) □

Six Sigma: socialization promotion through the inclusion of individuals in project teams from across functional, hierarchical, and organizational boundaries (e.g., suppliers and customers), and by the attendance of team meetings □

Knowledge sourcing; Personal networks; Knowledge networks; Inter-organizational networks; Clusters; R&D □

Development of knowledge base and promote the of institutionalization of experience □

Discovery; Invention and Innovation; R&D; Networked knowledge and communities of practice; families and clients □

Socialization practices demand physical proximity and joint action □

Promote an orchestrated organizational innovation policy that combine use of technical capability; managerial ability or learning-based organization; overall operation and performance of each ability of organization □

Externalization practices that support communities of practice at distance □

KT (Knowledge Translation) process from need to outcome (identifying relevant knowledge flows, repository and networked knowledge, identify key consumers and producers using communities of practice ☐

Engage in knowledge communication; contacts with Universities for research; Sustainable development ☐

Chief´s Knowledge Officers - strategic perspective that is related with improve customer relations and promoting knowledge management practices ☐

Organizational Processes to codify Problem-Solving knowledge ☐

Repository knowledge - scientific literature (e.g., PubMed, conference proceedings); innovation stage; rehabilitation/treatment technology databases ☐

Foster group "transactive memory systems" to affect group-performance ☐

Develop practices that promote group cooperation, or apprenticeship ☐

Promote formal (e.g., via a set of scores from standardized assessments) and informal (e.g., as subjective observations of caregivers, teachers, employers, and family members) knowledge inputs and outputs ☐

Use a task force to tackle a specific problem in the organization ☐

Organizational Learning (organizational learning from four angles: 1. Adaptive learning; 2. Hypothetic sharing; 3.Development of knowledge base; 4. Effect of institutionalization of experience) ☐

Develop routines that lead employees to integrate their individual knowledge into daily activity of organizations ☐

Talent Management - focusing on a small segment of the workforce that distinguishes itself by current performance or future potential and develop talent through "Corporate Institute of Personnel and Development (focusing on 'talent pools', internal and external) ☐

Please select 10 practices

Employee Competence Practices

Implicit knowledge externalization or sharing through socialization and explicit knowledge combination or internalization to render it implicit ☐

Knowledge management; Health and safety management; Conflict and dispute management; Ethical management; Stakeholder management; Information technology management; Communication management; Resources management; Financial management; Plant and equipment resources management ☐

Foster active learning (learning by doing) ☐

Competence portfolio ☐

Develop personal and intervention-specific learning ☐

Job rotation ☐

Knowledge Retention Procedures through observations, experiences and actions linked with an Information System available to several departments ☐

Balance organizational culture, rational goals, open systems (e.g. idea generation, information uptake) and internal processes (e.g. controlling, information management) Integrate Competence Management Systems into KM System ☐

Facilitate mutual learning, enable shared goal definition, create rules for cooperation and synergy, manage complexity and heterogeneity, plan integration, balance personal attitudes of involved personnel, fund publications in scientific journals ☐

Management of Key Operational Areas: Scheduling management and planning; Cost management; Quality management; Human resources management; Risk management ☐

Leverage the use of information technologies to improve information flow, knowledge sharing and for virtual meetings (Internet B2E portals, e- mail, teleworking for example) ☐

Acquire knowledge regarding research management and engage in interdisciplinary interventions ☐

Foster external knowledge acquisition to promote the growth of the knowledge of the organization, integrating it in internal routines, processes and across the organization ☐

Foster a Culture of openness for personal development; openness for competence assessment and trust ☐

Improve Knowledge Retention through: R&D activities, diversity or breadth of the organization's knowledge base, prior learning experience, shared language, cross-functional interfaces, mental models and problem solving capacity ☐

Mentoring and Partner Programs ☐

Collaboration, which supports individuals and groups who use content and apply their competences to identify, exchange, and create knowledge ☐

Synergies between Departments - to avoid duplication of work and to collect knowledge (also helps in benchmarking/staff development activities) ☐

SAP and other IT means to enhance knowledge retention strategies ☐

Evaluations of experience gained ☐

Competence-based learning (CBL) - individual trainings and learning paths can be developed to support the learner's development ☐

Developing appropriate learning programs focused on lifelong learning objectives
 Internal development of technological competences ☐

Figures Index

Figure 1

Leadership

82; 47% — Relevant Articles

95; 53% — Irrelevant Articles

Figure 2

Creativity

69; 48% — Relevant Articles

76; 52% — Irrelevant Articles

Figure 3

Recruitment

88; 42% — Relevant Articles

130; 58% — Irrelevant Articles

Figure 4

Motivation

54; 48% (Relevant Articles)
65; 52% (Irrelevant Articles)

Figure 5

New Ideas Generation

69; 47% (Relevant Articles)
83; 53% (Irrelevant Articles)

Figure 6

Level of Employees Competence

55; 48% (Relevant Articles)
72; 52% (Irrelevant Articles)

Figure 7

Figure 7 –Article Classification according to year and nature of KM Framework; Source: elaborated by the author

Figure 8

Figure 8 – Classification of articles according to geographical origin and sector; Source: elaborated by the author

Figure 9

Figure 10

239
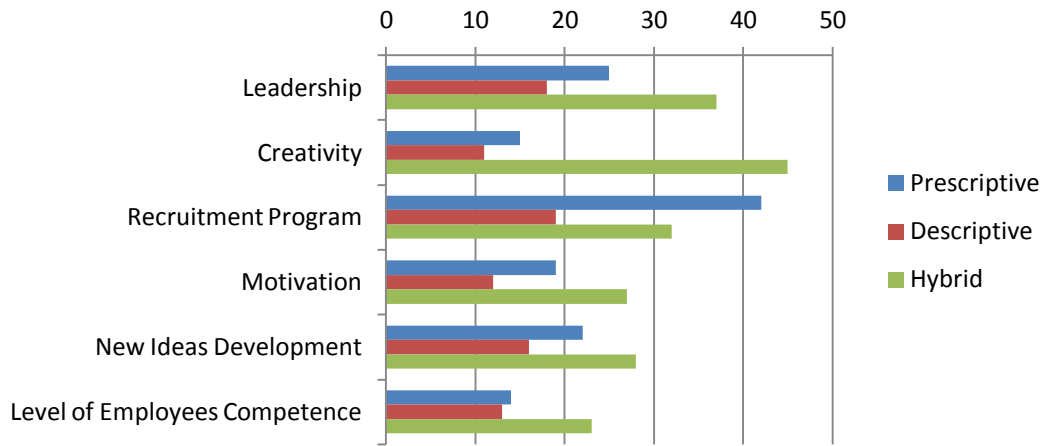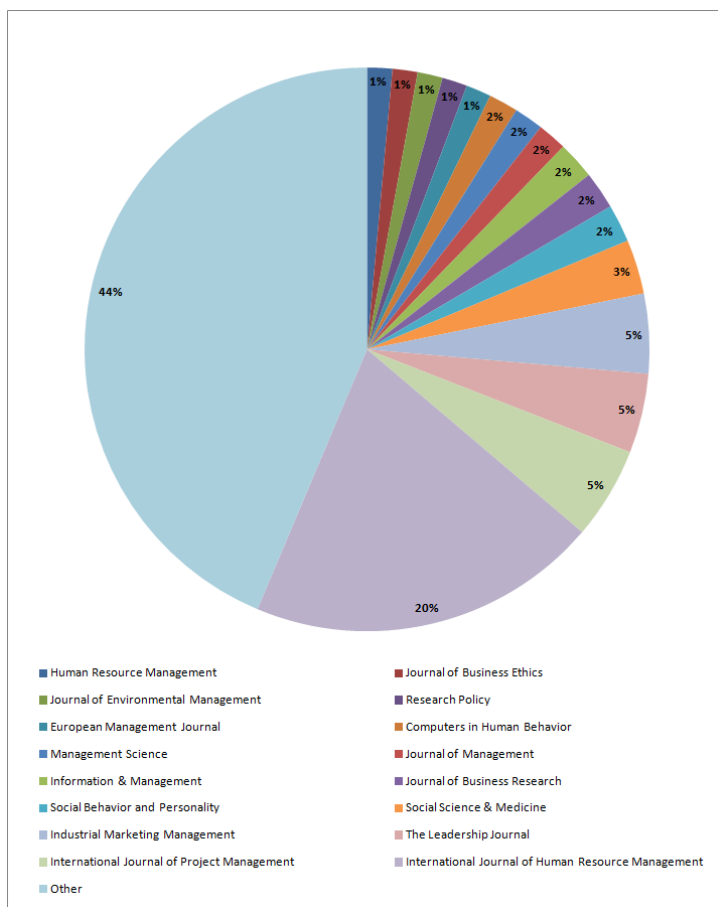
Figure 11

Figure – 11: The Two KM Approaches

Acquisition
(from customer, supplier, competitor and partner relations)

Social/Cultural Context (Practical Approach)

Development
(directed toward creation of new skills and products, better ideas and improved processes)

Distribution
(exchange and dissemination of knowledge from an individual to a group or the organization)

Utilization
(productive use for the benefit of the organization)

Retention
(selection, storage and updating of information, documents and experience)

Technological Context (Process Approach)

Measurement and Assessment

**Adaptation from the author of:" Knowledge management key activities";
Cabrita et al. (2012) Figure 1 ; p.2**

Figure 12

Figure 12 – Competitive Advantage Types

High	Operating Competitive Advantage	Continuous Competitive Advantage
The core Operating competence	Intermittent Competitive Advantage	Substantial Competitive Advantage
Low	The core Knowledge	High

Source: "Figure 1 – "The Cultivation of the Corporate Core Competence"; Xiang and Xu (2009); p.2

Figure 13

Figure 13 – Frequency of Leadership Attributes; Source: Elaborated by the Author

Attribute	Frequency
Motivational	19
Maintains Relationships	18
Informal Leadership	17
Transformational	16
Formal Leadership	15
Coordinator	11
Charismatic	10
Transactional	8
Attentive to Followers Needs	8
Decision Maker	6
Intelligent	6
Orientation Provider	5
Inspirational	2

Figure 14

Figure 14 – Frequency of Creativity Attributes; Source: Elaborated by the Author

Figure 15

Figure 15 – Frequency of Recruitment Attributes; Source: Elaborated by the Author

Figure 16

Figure 16 – Frequency of Motivation Attributes

Attribute	Frequency
Knowledge Sharing	23
Organizational Values	20
Create Knowledge	19
Incentives	17
Learning Environment	15
Collaboration	14
Attitude	12
Behavior Proactivity	12
Commitment	6
Climate	2

Figure 17

Figure 17 – Frequency of New Idea Generation Attributes

Attribute	Frequency
Integrate Expertise and Knowledge	18
Service and Product Improvement	17
Adoption of New Ideas	16
Knowledge Tools	15
Exchange Experiences	14
Innovation Strategy	11
Collaboration between Organizations	7
Combination of Ideas and Recombination	7
Exploration	5
Intangible Assets	4
Sustainable Competitive Advantage	4
Context Specific Factors from the Firm	4
Exploitation	4
R&D	3
Communicate Clearly an Idea	3
Shorten New Product Time Cycle Production	3
Idea Economic Value	2
Entrepreneurship	1
Risk Taking	1
Flexibility of Processes	1
Conversion of Knowledge from Tacit to Explicit and Explicit to Tacit	0
Partnerships and Alliances	0

Figure 18

Figure 18 – Frequency of Level of Employee Competence Attributes

Attribute	Frequency
Competence Experience	17
Competence Transfer	14
Firm-Specific Comepetence	13
Decision-Making Competence	13
Collective Skills	12
Activity Performace	11
Competence Acquisition	10
Close Knowledge Gap	8
Performance Antecedents	6
Enhance Competence	6
Building Competencies	6
External Competence	5
Core Competence	5
Strategic Comeptence	4
Skill Assessment	4
Training Competence	3
Competitive Advantage	3

Figure 19

Figure 19 – Frequency of Leadership KM Practices; Source Elaborated by the Author

Leadership KM Practice	Frequency
Performance Evaluation linked to IC Retention	10
Strategic Management and Leadership Performance Implementation	9
Programs to increase focus in Monitoring Quality Management	8
Leveraging Best Practices throughout the Organization to Exploit Core Competencies	8
Development of Ethical Knowledge (According to the Law)	8
Team Knowledge Development	8
Administration and Management Allegiance to conduct KM efforts	7
Process Teams,Taskforces, Management Teams and Advisory Teams	7
Embedding Knowledge into the Work Practices and Processes	6
Work-Based Learning and Capability Development through Specialist Training	6
Knowledge Repositories	5
Lead and Promote the Knowledge Management Agenda	5
Promote Efficiency, Adaptability and Innovativeness	5
Professional Circles and Non-formal meetings (using a social setting outside the company to discuss professional topics are approached to promote Creativity and Innovation)	5
Developing Protocols for Internal Access to Knowledge Assets of the Organization (Sharpening Up of Internal Access Procedure)	5
Mentoring	5
Maintained Ongoing ties with Academia	5
Embodied competencies into organization´s norms and values	4
Increase the Capacity to Learn(Past Failures and Successes in Strategic Decision-Making; Deepening the Knowledge Base of the Company;reaching Knowledge Embedded on Products and on Employees)	4
Leverage,Protect and Preserve existing Knowledge Resources (Make Knowledge Inimitable and Non-substitutable)	4
Promote the contribution of long-term employees to provide Innovative Ideas and implement them (Extensive Experience and Deep Knowledge)	4
Benchmark (Role Model)	4
Improve Team´s Knowledge Processes (team matrix, the expert web, the project compass, visual protocolling, or lessons learned repositories)	4
Mutual Briefings and Updates	4
Internal Journals (enable employees to share their ideas and experiences across the organization)	4
Use HR Practices to support Climate for Learning at an individual and group levels	4
Qualifications for Jobs	4
Enable Exchange of Tacit Know-How, Skills, and Abilities	4
Strategic Alliances for Learning (developing forums with different groups; job rotation; personnel transfers; ongoing training and development programs; sharing knowledge through written documents; joint ventures for knowledge acquisition purposes)	4
Team Knowledge Elicitation	4
Organizational Culture that fosters Cooperative Involvement (Trust linked with Incentives; Combine technology with the organizational culture conducive to knowledge creation and sharing)	3
Increase the capacity to Learn from Past Failures and Successes in Strategic Decision-Making; Deepening the knowledge Base of the Company (reaching knowledge Embedded on Products and on Employees)	3
Systematic Reviews or Lessons learned sessions	3
Segmenting and Catalogue Knowledge Assets (Increase it´s Protection)	3
Converting Public Relation and Communication Knowledge and Expertise into Effective Tactics and Strategies	3
Implementing and linking Sustainably (Cohrough a conceptual framework with Organizational Practices)	3
Implement a Knowledge Dissemination Measurement Framework	3
Provide knowledge regarding stakeholders´ goals in relation to team´s work	3
Promote New Application of Previous Knowledge	3
Lead Privacy Issues (government/legislative bodies and industry leaders)	3
Managing Communications between Operational Areas and External Stakeholders	3
Promote interaction and communication in social settings to drive knowledge sharing (synthetization of individual knowledge)	3
Network Resource Sharing	3
Leaders collaboration across departments of the organization	3
Institutionalizing Knowledge Sharing Incentives	3
Mobilize expert knowledge within the organization	3
Create Social robust Knowledge in Interaction with Society and Stakeholders (Organizational Initiatives of Social Responsibility)	3
Win Knowledge Resources through contacts with the community (e.g. conferences; education; industry networking; collaborative networks of researchers)	3
Train employees better equiping them with the latest skills (train developed internally or externally)	3
Retrieve Knowledge from various sources interlocking it with data	3
Training	3
Unit Based File Coordinator (Implement and coordinate a standardized filing system, regular quality audits and standard of entries, who can preserve paper-based records, and ensure that records are complying with Data Protection and the access needs	2
Structural Closure: important in interpersonal networks, to foster shared behavioral norms and knowledge-sharing routines, curbing opportunism in collaborative networks, with higher innovative outputs	2
Promote a Knowledge Sharing Culture (Socio-Organizational and Culture as drivers) to maximize return on: tangible and intangible knowledge assets and resources such as the tacit knowledge; competencies; experiences	2
Transmit to employees that they are the creators/transferers of knowledge and users centering their attention on KM efforts (getting the right knowledge to the right people)	2

Figure 20

Figure 20 – Frequency of Creativity KM Practices; Source: Elaborated by the Author

Figure 21

Figure 21 – Frequency Recruitment KM Practices; Source: Elaborated by the Author

Figure 22

Figure 22 – Frequency of Motivation KM Practices; Source: Elaborated by the Author

Practice	Frequency
Experience Through Observation Procedures focusing in acquiring tacit and explicit knowledge	15
Efficiency Strategy - Development of expert knowledge of young employees to become specialists in a certain function, exploitative learning mode focused on improving and reconfiguration of successful processes and established routines	13
Encourage individuals to contribute to the collective knowledge of the firm and to enhance their own knowledge base through "knowing exactly what they know" programs	12
Leadership involvement to create Work Environments and an Organizational Culture that influence attitudes towards Knowledge Sharing	11
Decision Making and Control Mechanisms (conducive to good communication and effective monitoring of the collaboration need to be developed)	11
High-Commitment Work Systems to built firm-specific knowledge and firm-specific communication channels and values	11
The transfer of routines, tools, and technology across units within the organization	11
Transactive Memory Systems and Common Short-Hand Languages (affect members' ability to create, retain, or transfer knowledge)	10
Implement Employment System with an Efficiency Orientation - on-the-job training and senior retention that furthers an approach of bureaucratic regulation and can be associated with the internal labor market archetype	10
Mentoring Programs- emphasizing developmental contacts and interpersonal relationships	10
Promote Knowledge Sharing through monitoring mechanisms, reward policies or social planning	9
Professional virtual communities (PVCs -gather geographically dispersed, like-minded people to form a network for knowledge exchange)	9
Managerial actions to promote knowledge sharing through proper environment/corporate culture (at different levels individuals, groups, departments and other)	9
Identify the availability of knowledge as a facilitator of knowledge transfer and implement practices to increase knowledge availability (e.g employees allocated between units to share routines developed in their original unit with their new unit	9
Web-based technology tool for supported collaborative learning (also may enrich learning performance, individual knowledge construction or group knowledge sharing)	9
Network technologies to facilitates interaction among learners for acquisition or sharing of knowledge	9
Communities of practice (COPs) and other practice-related social networks (to share thoughts, find solutions, and pursue innovation)	9
Categorize the Knowledge of the Organization Journals; electronic databases; map relevant domains (e.g. critical organizational studies; disciplinary fields)	8
Supervisory control for motivating knowledge sharing, incentive programs, and efficient communication platforms (e.g. SAP) and /or to induce cooperation among community members, offering the opportunity of self-coordinated behavior	8
Proactive Policy of Management of explicit and implicit knowledge developing employees' competencies in knowledge management and in promoting knowledge sharing	8
HRM mechanisms to enhance trust and performance (to deal with control, trust, and conflict issues)	8
Training (including acquisition of management skills, technology, and cross-cultural under-standing)	8
Promote Knowledge Sharing Monetary Reward (from different parts of the organization) and/or Social Reward	7
Create transparent communication systems, for free-flow of information with real time accessibility of information (about goals, resources, strategies, and achievements etc.) promoting the participation of user	7

Figure 23

Figure 23 – Frequency of New Ideas Generation KM Practices; Source: Elaborated by the Author

Figure 24

Figure 24 – Frequency of Level of Employee Competence KM Practices; Source: Elaborated by the Author

Figure 25

Figure 25 – Leadership Attribute "Coordinator" link with KM Practices

Figure 26
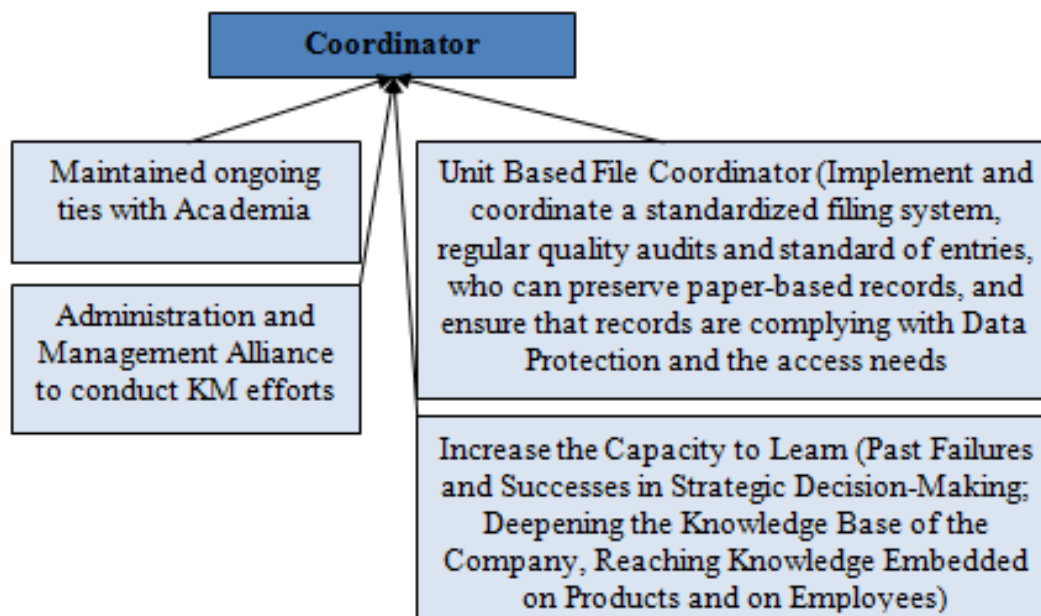
Figure 26 – Leadership Attribute Coordinator link with KM Practices

Figure 27
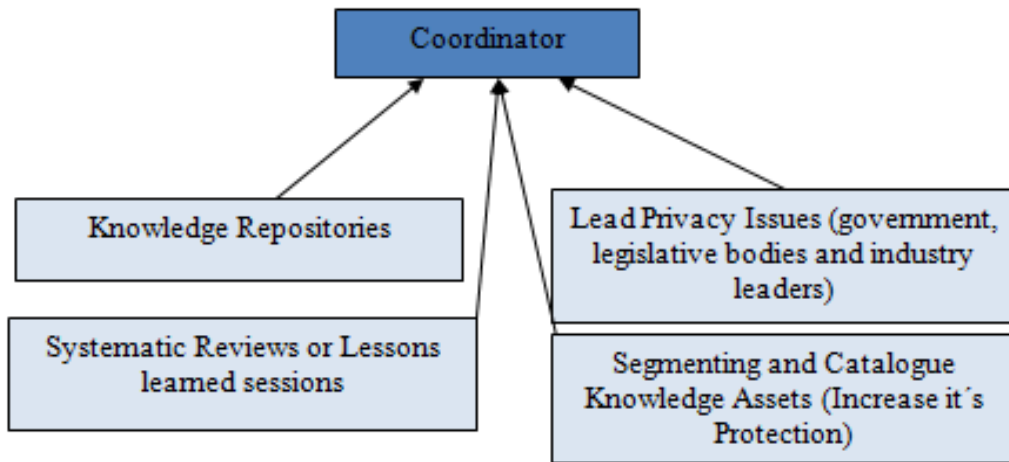
Figure 27 – Leadership Attribute Coordinator link with KM Practices

Figure 28
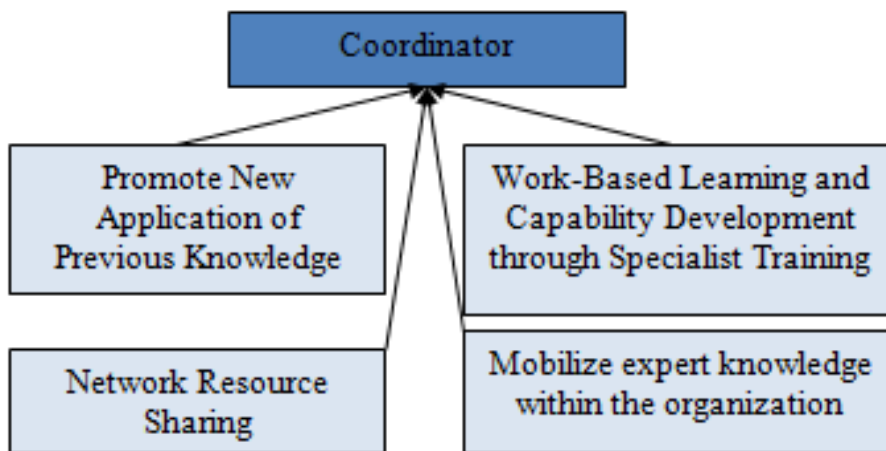
Figure 28 – Leadership Attribute Coordinator link with KM Practices
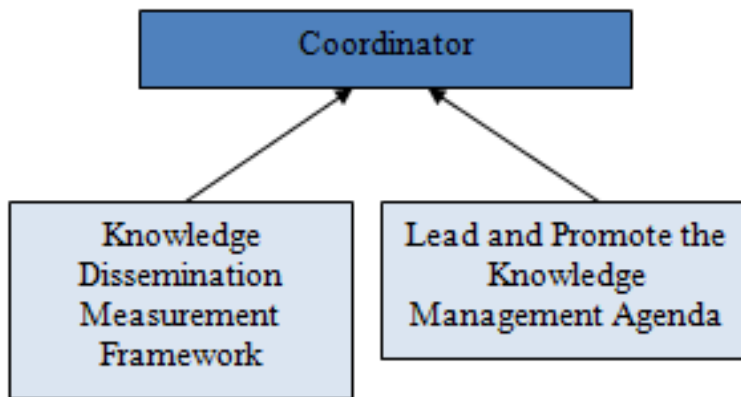
Figure 29

Figure 29 – Leadership Attribute Coordinator link with KM Practices

Figure 30
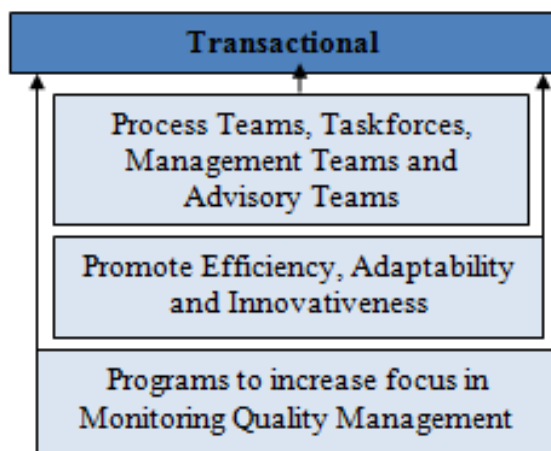
Figure 30 – Leadership Attribute "Transactional" link with KM Practices

Figure 31
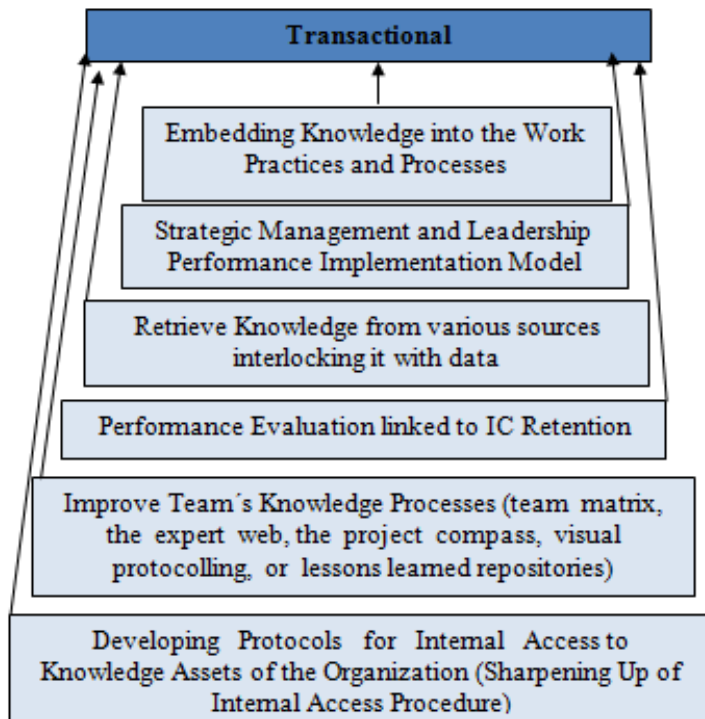
Figure 31 – Leadership Attribute "Transactional" link with KM Practices

Figure 32

Figure 32 – Leadership Attribute "Maintains Relationships" link with KM Practices

Figure 33

Motivational

Enable Exchange of
Tacit Know-How,
Skills, and Abilities

Win Knowledge Resources
through contacts with the
community (e.g. conferences;
education; industry
networking; collaborative
networks of researchers)

Promote the contribution of long-term
employees to provide Innovative Ideas and
implement them (Extensive Experience and

Figure 33 – Leadership Attribute "Motivational" link with KM Practices

Figure 34

Informal Leadership

Leaders collaboration across departments
of the organization

Promote interaction and communication in social
settings to drive knowledge sharing (synthetization of
individual knowledge)

Professional Circles and Non-formal meetings (using a social
setting outside the company to discuss professional topics are
approached to promote Creativity and Innovation)

**Figure 34 – Leadership Attribute "Informal
Leadership" link with KM Practices**

Figure 35

Formal Leadership

Institutionalizing Knowledge Sharing Incentives

Internal Journals (enable employees to share their ideas and experiences across the organization)

Structural Closure: important in interpersonal networks, to foster shared behavioral norms and knowledge-sharing routines, curbing opportunism in collaborative networks, with higher innovative outputs

Provide knowledge regarding stakeholders´ goals in relation to team´s work

Strategic Alliances for Learning (developing forums with different groups; job rotation; personnel transfers; ongoing training and development programs; sharing knowledge through written documents; joint ventures for knowledge acquisition purposes)

Figure 35 – Leadership Attribute "Formal Leadership" link with KM Practices

Figure 36

Attentive to followers Needs

Organizational Culture that fosters Cooperative Involvement (Trust linked with Incentives; Combine technology with the organizational culture conducive to knowledge creation and sharing)

Figure 36 – Leadership Attribute "Attentive to Followers Needs" link with KM Practices

Figure 37

**Figure 37 – Leadership Attribute Charismatic
link with KM Practices**

Figure 38
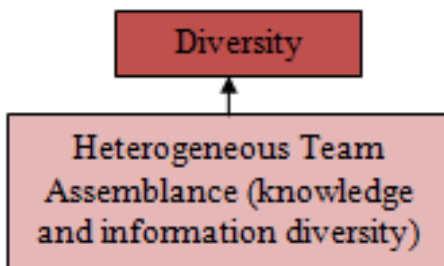
**Figure 38 –Creativity Attribute "Diversity" link
with KM Practices**

Figure 39
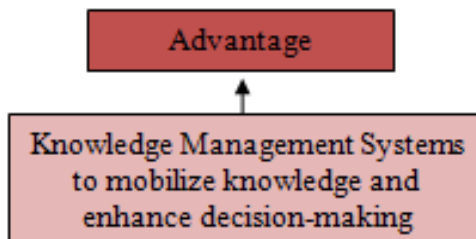
**Figure 39 –Creativity Attribute Advantage link
with KM Practices**

Figure 40
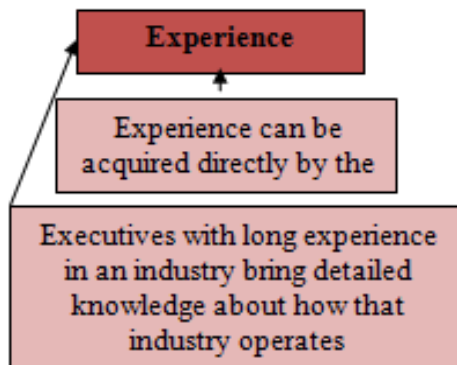
Experience

Experience can be acquired directly by the

Executives with long experience in an industry bring detailed knowledge about how that industry operates

Figure 40 –Creativity Attribute Experience link with KM Practices

Figure 41

Performative

Promote the utilization of transactive memory systems; shared mental models; prior experience (to enhance group performance)

Figure 41 –Creativity Attribute Performative link with KM Practices

Figure 42

Interaction

Team Members Knowledge Contribution: 1. Reward team members' contribution; 2. Create a trust atmosphere to share knowledge; 3.management support to appropriate communication channels (make team members feel their contributions are appreciated)
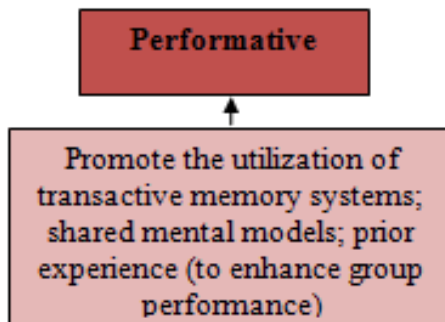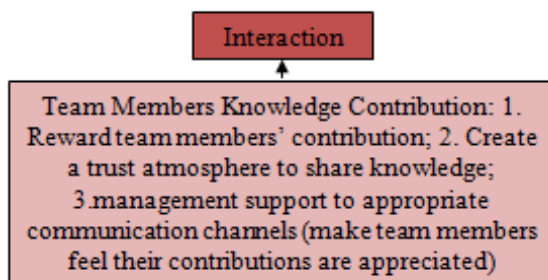
Figure 42 –Creativity Attribute "Interaction" link with KM Practices
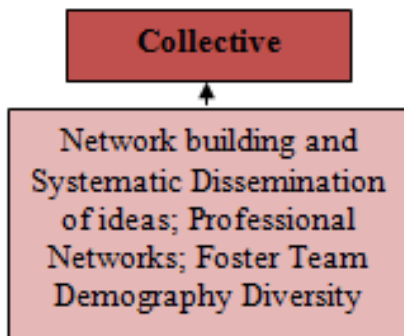
Figure 43

Figure 43 –Creativity Attribute Collective link with KM Practices

Figure 44
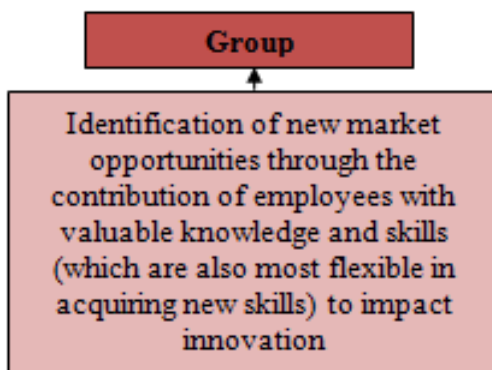
Figure 44 –Creativity Attribute Group link with KM Practices

Figure 45
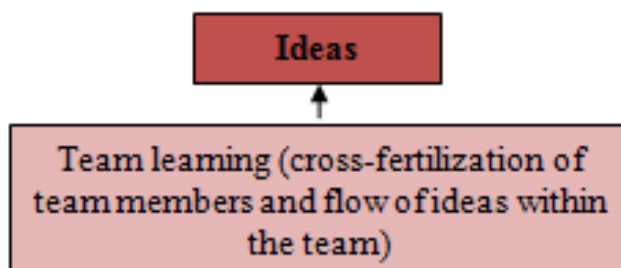
Figure 45 –Creativity Attribute "Ideas" link with KM Practices

Figure 46
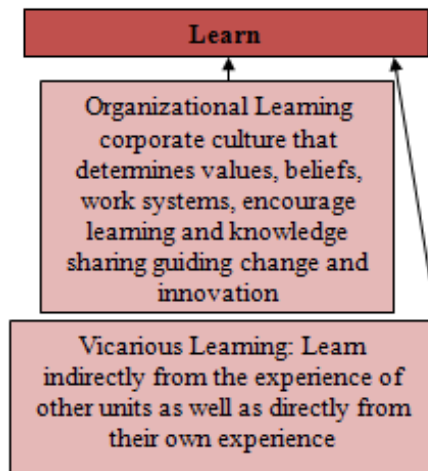
**Figure 46 –Creativity Attribute
"Learn" link with KM Practices**

Figure 47

**Figure 47 –Creativity Attribute "New" link
with KM Practices**

Figure 48

Capability

Collective problem-solving processes

Management education training (help employees gain the proper knowledge and skills needed to meet the environmental challenges, support of organizational growth and advancement, through forums for the communication of organizational strategies, new values, tools, and work performance improvement)

Figure 48 –Creativity Attribute "Capability" link with KM Practices

Figure 49

Innovation

Mechanisms to assist and enable the management of knowledge and innovation to foster creativity

Balance HR Practices regarding Exploration and Exploitation Knowledge Development

Enhancing Quality Performance Procedures: Training; Small Group

Figure 49 –Creativity Attribute Innovation link with KM Practices

Figure 50

Thinking (styles/skills/original/new)

Acquire Knowledge from the external relationships (by the interactions with external organizations – the better the capabilities of thinking and product differentiation improve)

Figure 50 –Creativity Attribute "Thinking (styles/original/new)" link with KM Practices

Figure 51

Workplace

Create and Locate Organizational

Action Learning Methods (small groups; learning set; set advisers, a problem/task focus, outcomes focusing on real time action, opportunity for reflection for all learners)

Figure 51 –Creativity Attribute "Workplace" link with KM Practices

Figure 52

Change

Collaborative Work to increase creativity (pooling together and integrate effectively different perspectives, knowledge, skills, and abilities on a task)

Figure 52 –Creativity Attribute "Change" link with KM Practices

Figure 53

Organizational

Measuring Organizational Performance in KM, categorized into four groups: financial measures, intellectual capital, tangible and intangible benefits, and balanced scorecard

Figure 53 –Creativity Attribute "Organizational" link with KM Practices

Figure 54

Commitment

Environmental Management System: 1- Provide training; 2- Guarantee effective communication; 3-Motivate employees

Develop and implement HR tactics and action plans in the organization to support the departments in achieving the business objectives

Salary with a Fixed-Base Component combined with a variable component (performance-related)

Figure 54 –Recruitment Attribute Commitment link with KM Practices

Figure 55

Figure 55–Recruitment Attribute "Experience" link with KM Practices

Figure 56
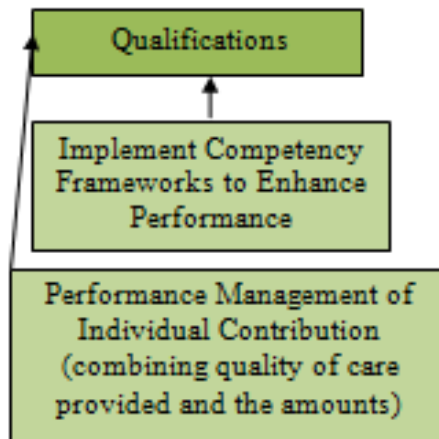
Figure 56 –Recruitment Attribute "Qualifications" link with KM Practices

Figure 57

Figure 57 –Recruitment Attribute Costs link with KM Practices

263
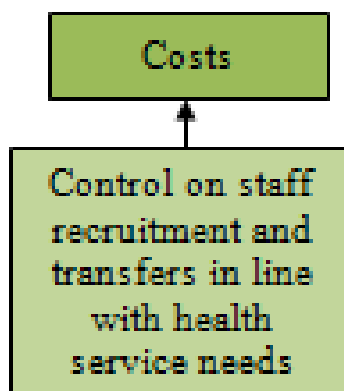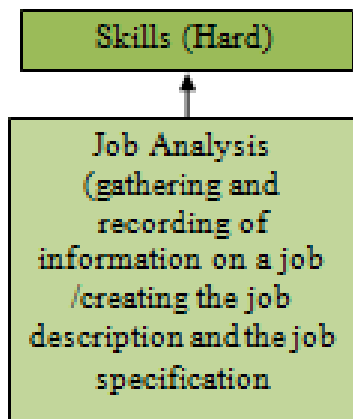
Figure 58

Figure 58 –Recruitment Attribute "Skills (Hard)" link with KM Practices

Figure 59
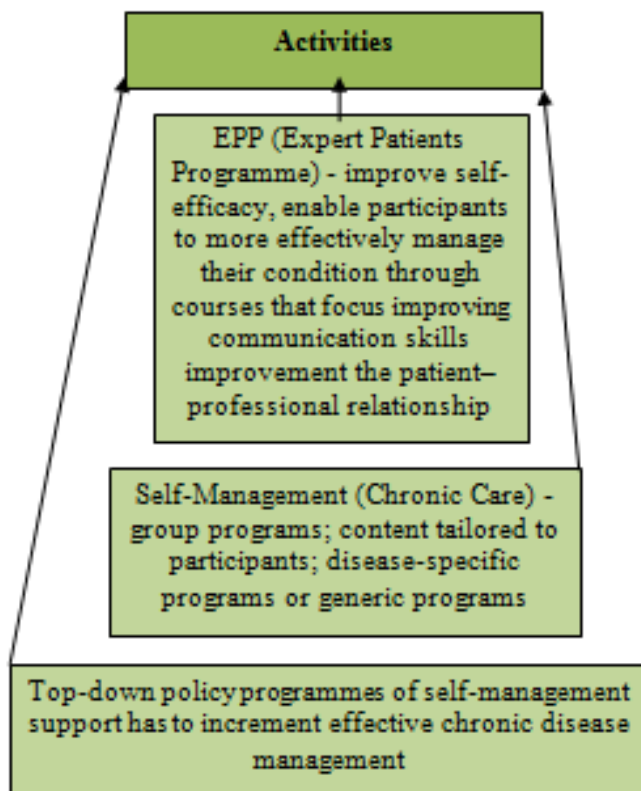
Figure 59 –Recruitment Attribute "Activities" link with KM Practices

Figure 60
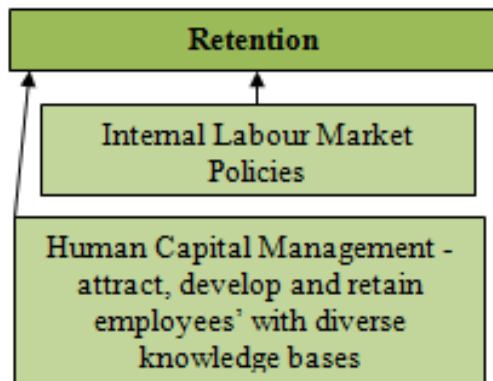
**Figure 60 –Recruitment Attribute
"Retention" link with KM Practices**

Figure 61

**Figure 61 –Recruitment Attribute "Selection
(External)" link with KM Practices**

Figure 62

Diversity

Diversity Management Procedures focusing in enhancing creativity, innovation and decision-making (promoting the inclusion of individuals into formal programmes and informal networks)

Diversity Management practices and the attraction of high achievers (Women and minority recruitment)

Culture of Inclusion: enables people with distinct experiences, mental models and ways of understanding the world to work together in order to achieve individual, collective and organizational growth

Figure 62 –Recruitment Attribute "Diversity" link with KM Practices

Figure 63

Organizational Culture

Employment practices that create attractiveness (strong opportunities for career growth and development, for potential job applicants)

Evidence-informed Decision Making: consideration of the best available research evidence along with other important factors that influence program and policy decisions

Figure 63 –Recruitment Attribute "Organizational Culture" link with KM

Figure 64
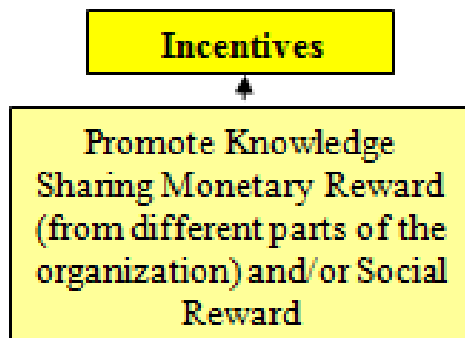
Incentives

Promote Knowledge Sharing Monetary Reward (from different parts of the organization) and/or Social Reward

Figure 64 –Motivation Attribute "Incentives" link with KM Practices

Figure 65

Collaboration

Mentoring Programs: emphasizing developmental contacts and interpersonal relationships

Decision Making and Control Mechanisms (conducive to good communication and effective monitoring of the collaboration need to be developed)

HRM mechanisms to enhance trust and performance (to deal with control, trust, and conflict issues)
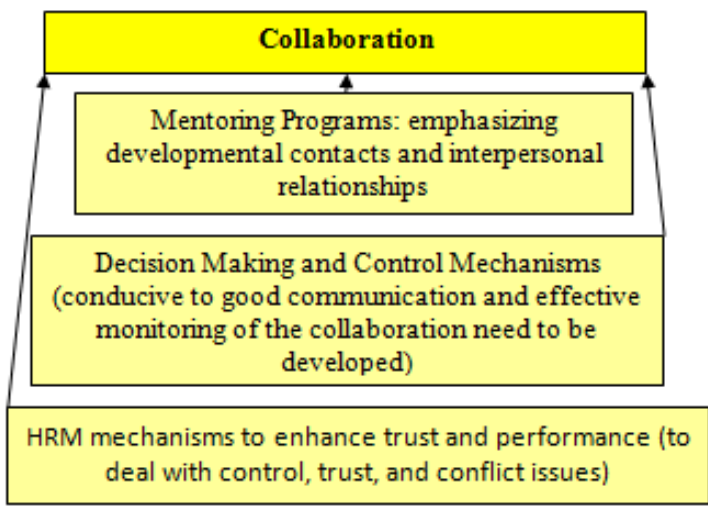
Figure 65 –Motivation Attribute "Collaboration" link with KM Practices
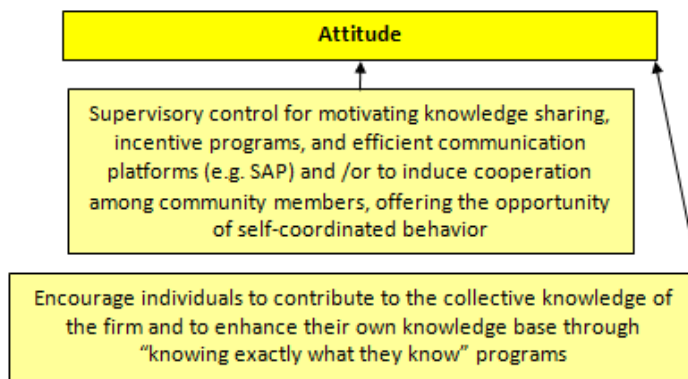
Figure 66

Figure 66 –Motivation Attribute "Attitude" link with KM Practices

Figure 67
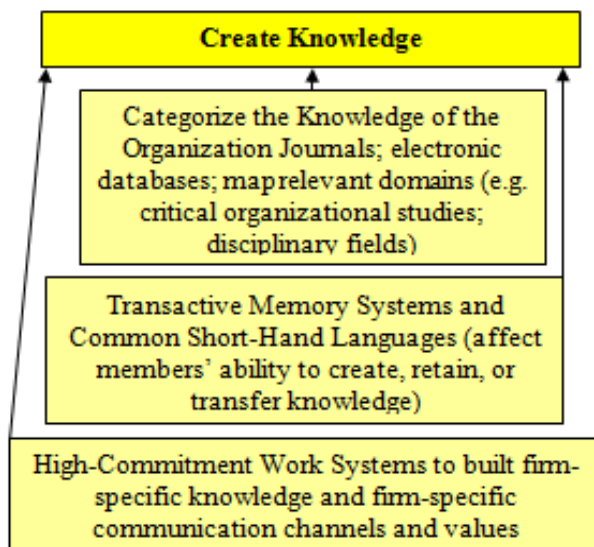
Figure 67 – Motivation Attribute "Create Knowledge" link with KM Practices

Figure 68
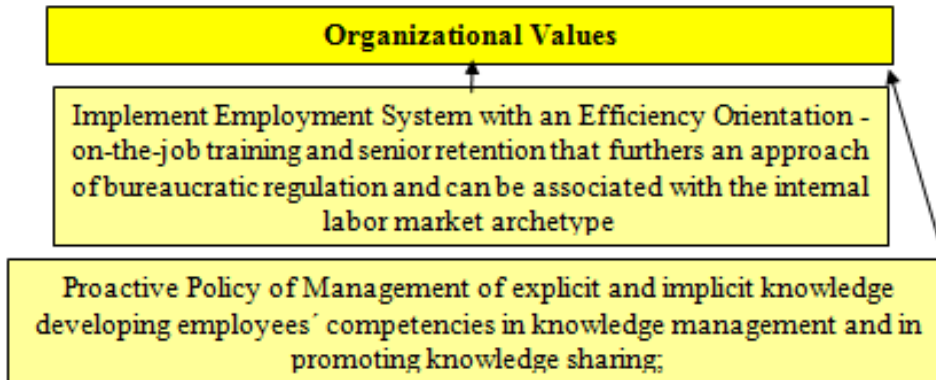
Figure 68 – Motivation Attribute "Organizational Values" link with KM Practices

Figure 69
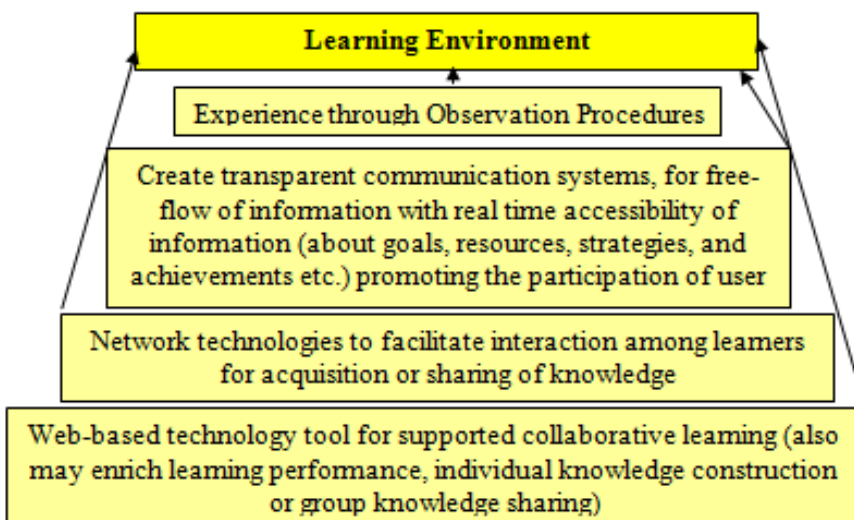
Figure 69 – Motivation Attribute "Learning Environment" link with KM Practices

Figure 70
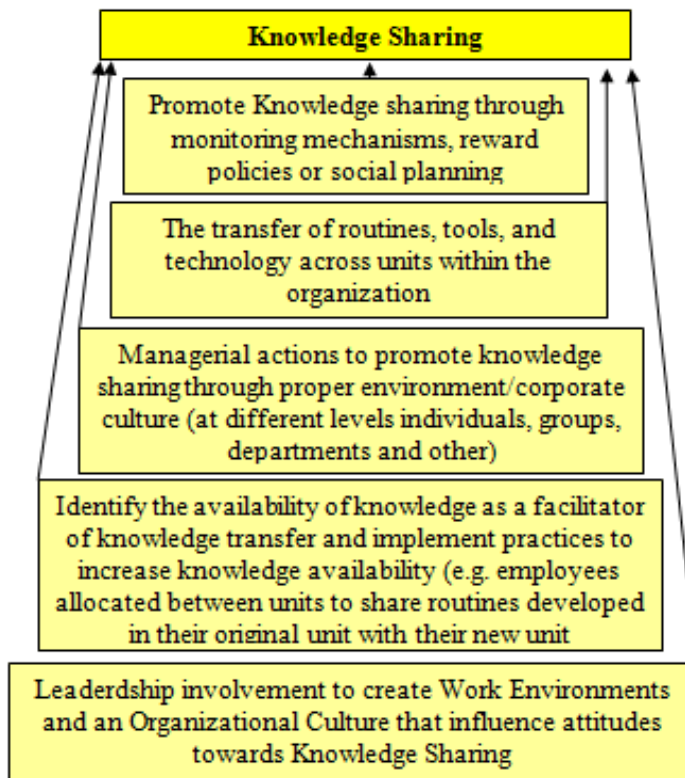
Figure 70 – Motivation Attribute "Knowledge Sharing"
link with KM Practices

Figure 71
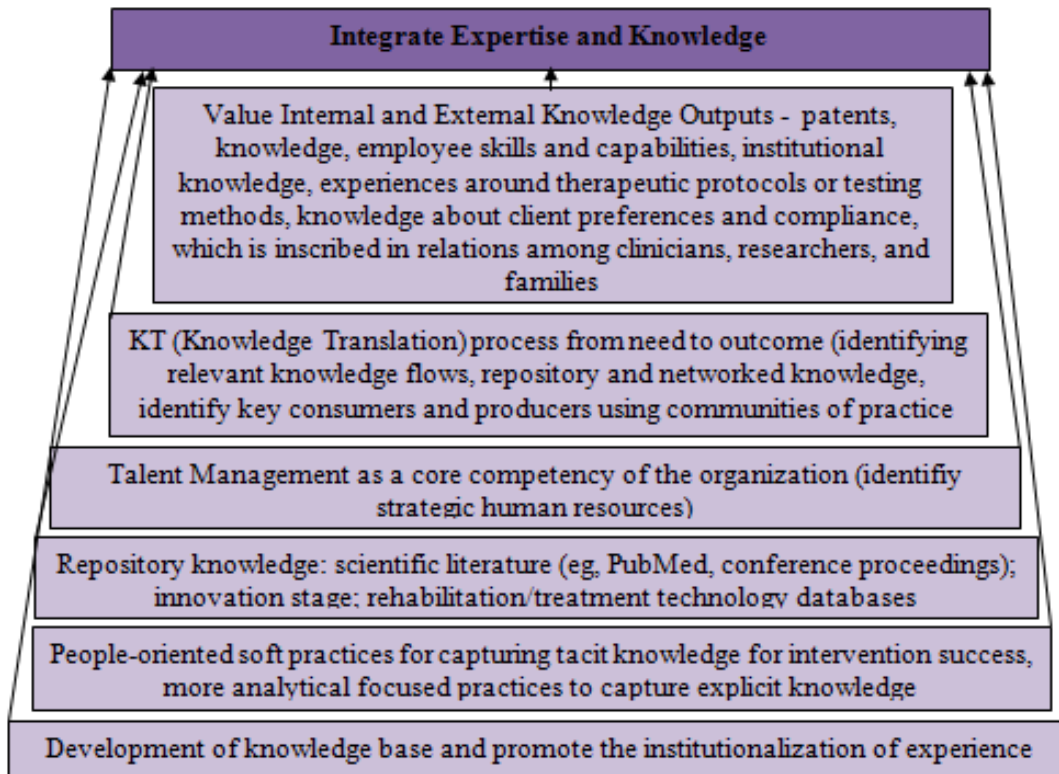
Figure 71 – New Ideas Generation Attribute "Integrate expertise and Knowledge" link with KM Practices

Figure 72
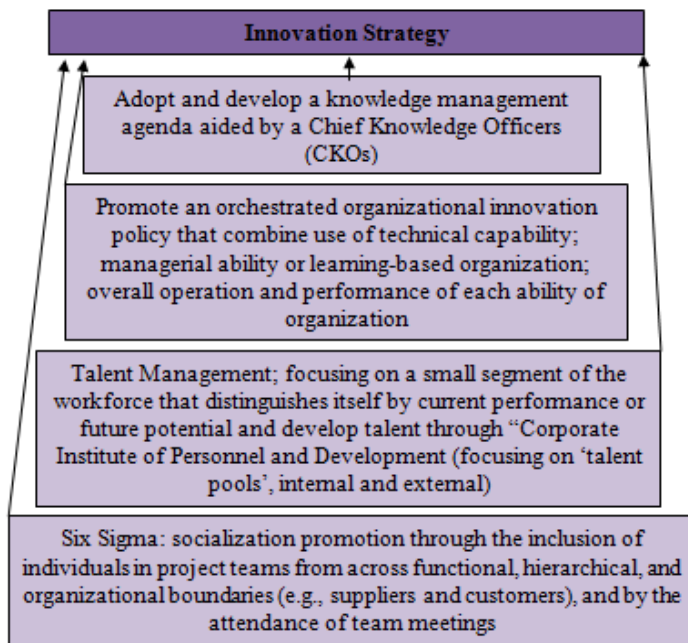
Figure 72 – New Ideas Generation Attribute "Innovation Strategy" link with KM Practices

Figure 73
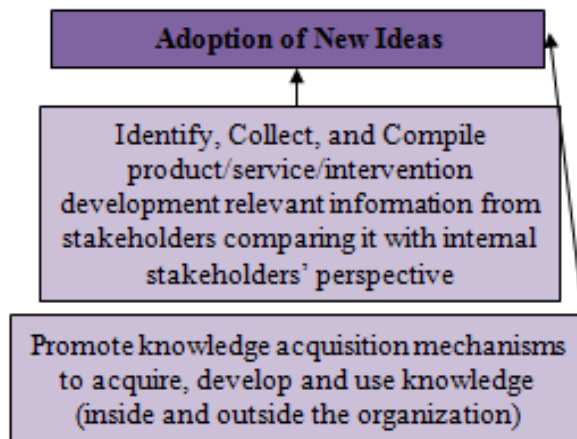
Figure 73 – New Ideas Generation Attribute "Adoption of New Ideas" link with KM Practices

Figure 74

Figure 74 – New Ideas Generation Attribute "Service and Product Improvement" link with KM Practices

Figure 75

Exchange Experiences

Foster Group "transactive memory systems" to affect group-performance

Socialization practices demand physical proximity and joint action

Knowledge sourcing; Personal networks; Knowledge networks; Inter-organizational networks; Clusters; R&D

Externalization practices that support communities of practice at distance

Promote sourcing relevant knowledge, which is often distributed across organizations and individuals

Figure 75 – New Ideas Generation Attribute "Exchange Experiences" link with KM Practices

Figure 76

Knowledge Tools

IT and Knowledge management systems integration - organizational processes related to the storage and retrieval of knowledge (and also transfer, creation and application of knowledge)

Figure 76 – New Ideas Generation Attribute "Knowledge Tools" link with KM Practices

273

Figure 77

Figure 77 – New Ideas Generation Attribute "Collaboration between Organizations" link with KM Practices

Figure 78
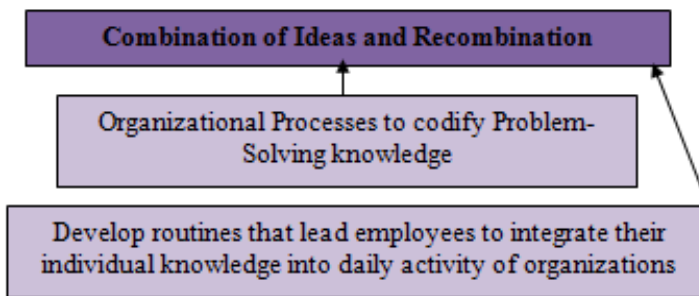
Figure 78 – New Ideas Generation Attribute "Combination of Ideas and Recombination" link with KM Practices

Figure 79
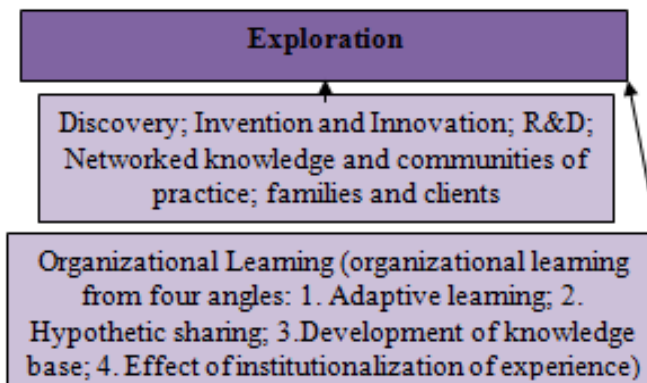
Figure 79 – New Ideas Generation Attribute "Exploration" link with KM Practices

Figure 80
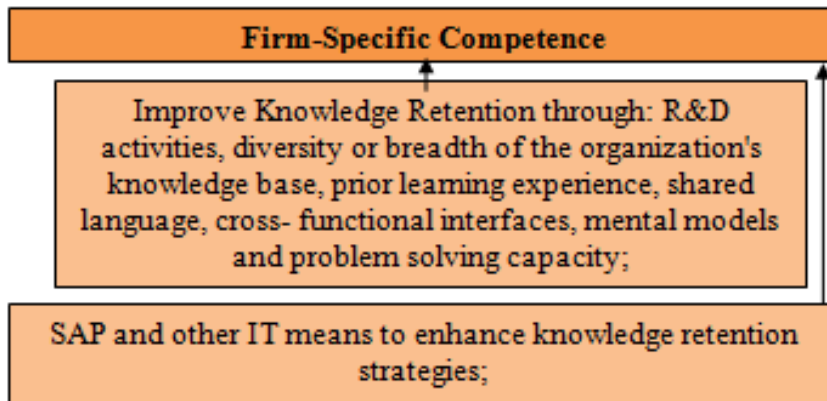
Firm-Specific Competence

Improve Knowledge Retention through: R&D activities, diversity or breadth of the organization's knowledge base, prior learning experience, shared language, cross- functional interfaces, mental models and problem solving capacity;

SAP and other IT means to enhance knowledge retention strategies;

Figure 80 – Level of Employee Competence Attribute "Firm-Specific Competence" link with KM Practices

Figure 81

Performance Antecedents

Balance organizational culture, rational goals, open systems (e.g. idea generation, information uptake) and internal processes (e.g. controlling, information management)

Figure 81 – Level of Employee Competence Attribute "Performance Antecedents" link with KM Practices

Figure 82

Competence Experience

Mentoring and Partner Programs

Integrate Competence Management Systems into KM System
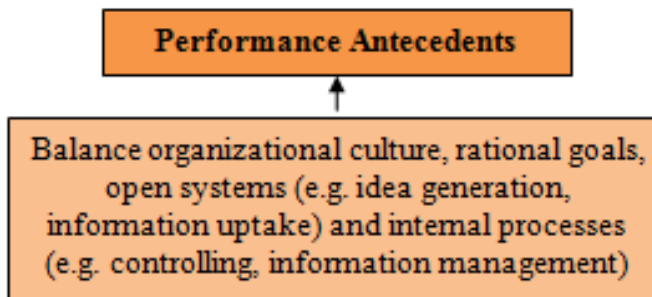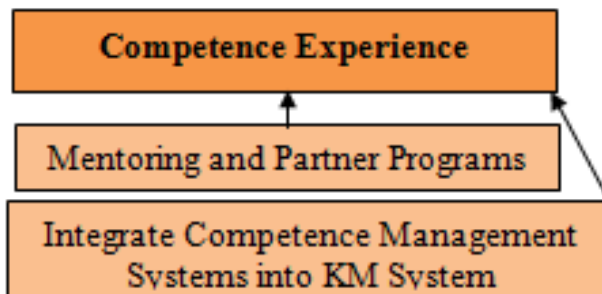
Figure 82 – Level of Employee Competence Attribute "Competence Experience" link with KM Practices
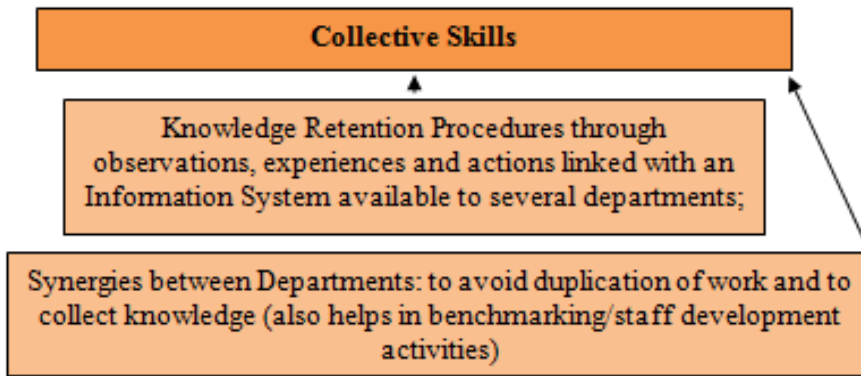
Figure 83

Figure 83 – Level of Employee Competence Attribute "Collective Skills" link with KM Practices

Figure 84
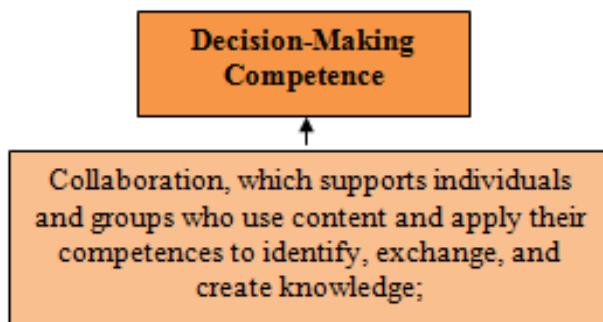
Figure 84 – Level of Employee Competence Attribute "Decision-Making Competence" link with KM Practices

Figure 85

Figure 85 – Level of Employee Competence Attribute "Enhance Competence" link with KM Practices

Figure 86

Activity Performace

Management of Key Operational Areas: Scheduling management and planning, Cost management; Quality management, Human resources management, Risk management; Knowledge management, Health and safety management, Conflict and dispute management, Ethical management; Stakeholder management; Information technology management, Communication management, Resources management, Financial management, Plant and equipment resources management

Figure 86 – Level of Employee Competence Attribute "Activity Performance" link with KM Practices

Figure 87

Close Knowledge Gap

Job rotation

Competence-based learning (CBL): individual trainings and learning paths can be developed to support the learner's development

Figure 87 – Level of Employee Competence Attribute "Close Knowledge Gap" link with KM Practices

Figure 88

Competence Acquisition

Evaluations of experience gained

Leverage the use of information technologies to improve information flow, knowledge sharing and for virtual meetings (Internet B2E portals, e-mail, teleworking for example)

Figure 88 – Level of Employee Competence Attribute "Competence Acquisition" link with KM Practices

Figure 90 – Source: Elaborated by the Author

Legend:
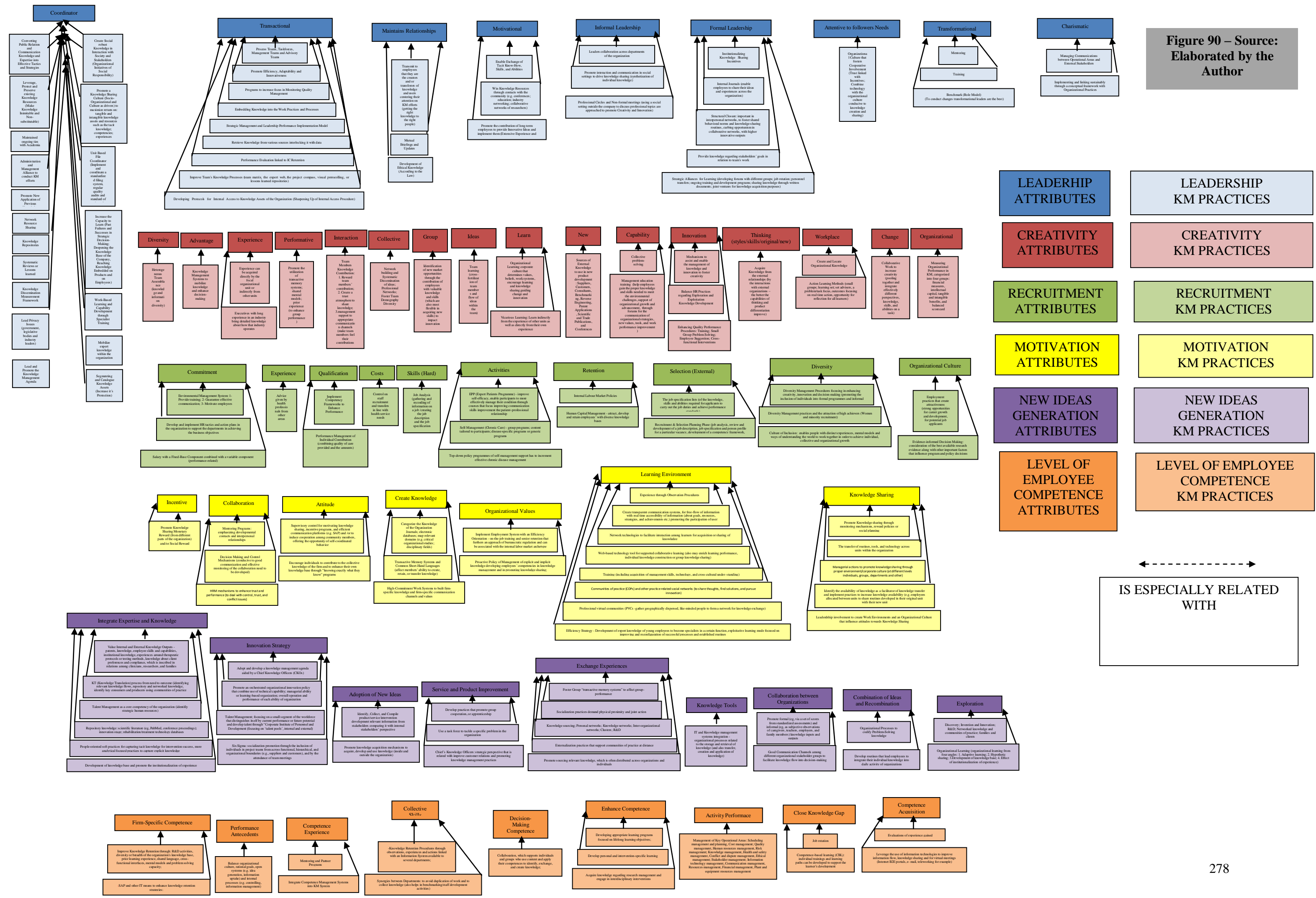
Attributes	KM Practices
LEADERSHIP ATTRIBUTES	LEADERSHIP KM PRACTICES
CREATIVITY ATTRIBUTES	CREATIVITY KM PRACTICES
RECRUITMENT ATTRIBUTES	RECRUITMENT KM PRACTICES
MOTIVATION ATTRIBUTES	MOTIVATION KM PRACTICES
NEW IDEAS GENERATION ATTRIBUTES	NEW IDEAS GENERATION KM PRACTICES
LEVEL OF EMPLOYEE COMPETENCE ATTRIBUTES	LEVEL OF EMPLOYEE COMPETENCE KM PRACTICES

IS ESPECIALLY RELATED WITH

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Figure 91 – Source: Elaborated by the Author

Coordinator

- Converting Public Relation and Communication Knowledge and Expertise into Effective Tactics and Strategies
- Leverage, Protect and Preserve existing Knowledge Resources (Make Knowledge Inimitable and Non-substitutable)
- Maintained ongoing ties with Academia
- Administration and Management Alliance to conduct KM efforts
- Promote New Application of Previous Knowledge
- Network Resource Sharing
- Knowledge Repositories
- Systematic Reviews or Lessons learned sessions
- Knowledge Dissemination Measurement Framework
- Lead Privacy Issues (government, legislative bodies and industry leaders)
- Lead and Promote the Knowledge Management Agenda
- Create Social robust Knowledge in Interaction with Society and Stakeholders (Organizational Initiatives of Social Responsibility)
- Promote a Knowledge Sharing Culture (Socio-Organizational and Culture as drivers) to maximize return on: tangible and intangible knowledge assets and resources such as the tacit knowledge; competencies; experiences
- Unit Based File Coordinator (Implement and coordinate a standardized filing system, regular quality audits and standard of entries, who can preserve paper-based records, and ensure that records are complying with Data Protection and the access needs
- Increase the Capacity to Learn (Past Failures and Successes in Strategic Decision-Making; Deepening the Knowledge Base of the Company, Reaching Knowledge Embedded on Products and on Employees)
- Mobilize expert knowledge within the organization
- Segmenting and Catalogue Knowledge Assets (Increase it´s Protection)

Transactional

- Process Teams, Taskforces, Management Teams and Advisory Teams
- Promote Efficiency, Adaptability and Innovativeness
- Programs to increase focus in Monitoring Quality Management
- Embedding Knowledge into the Work Practices and Processes
- Strategic Management and Leadership Performance Implementation Model
- Retrieve Knowledge from various sources interlocking it with data
- Performance Evaluation linked to IC Retention
- Improve Team´s Knowledge Processes (team matrix, the expert web, the project compass, visual protocolling, or lessons learned repositories)
- Developing Protocols for Internal Access to Knowledge Assets of the Organization (Sharpening Up of Internal Access Procedure)

Formal Leadership

- Institutionalizing Knowledge Sharing Incentives
- Internal Journals (enable employees to share their ideas and experiences across the organization)
- Structural Closure: important in interpersonal networks, to foster shared behavioral norms and knowledge-sharing routines, curbing opportunism in collaborative networks, with higher innovative outputs
- Provide knowledge regarding stakeholders´ goals in relation to team´s work
- Strategic Alliances for Learning (developing forums with different groups; job rotation; personnel transfers; ongoing training and development programs; sharing knowledge through written documents; joint ventures for knowledge acquisition purposes)

Motivational

- Enable Exchange of Tacit Know-How, Skills, and Abilities
- Win Knowledge Resources through contacts with the community (e.g. conferences; education; industry networking; collaborative networks of researchers)
- Promote the contribution of long-term employees to provide Innovative Ideas and implement them (Extensive Experience and Deep Knowledge)

Maintains Relationships

- Transmit to employees that they are the creators and or transferors of knowledge and users centering their attention on KM efforts (getting the right knowledge to the right people)
- Mutual Briefings and Updates
- Development of Ethical Knowledge (According to the Law)

Informal Leadership

- Leaders collaboration across departments of the organization
- Promote interaction and communication in social settings to drive knowledge sharing (synthetization of individual knowledge)
- Professional Circles and Non-formal meetings (using a social setting outside the company to discuss professional topics are approached to promote Creativity and Innovation)

Attentive to followers Needs

- Organizational Culture that fosters Cooperative Involvement (Trust linked with Incentives; Combine technology with the organizational culture conducive to knowledge creation and sharing)

Transformational

- Mentoring
- Training
- Benchmark (Role Model) (To conduct changes transformational leaders are the best)

Charismatic

- Managing Communications between Operational Areas and External Stakeholders
- Implementing and linking sustainably through a conceptual framework with Organizational Practices

LEGEND:

- LEADERHIP ATTRIBUTES
- LEADERSHIP KM PRACTICES
- IS ESPECIALLY RELATED WITH

Figure 92 – Source: Elaborated by the Author

Thinking (styles/skills/original/new)

Acquire Knowledge from the external relationships (by the interactions with external organizations – the better the capabilities of thinking and product differentiation improve)

Diversity

Heterogeneous Team Assemblance (knowledge and information diversity)

Performative

Promote the utilization of transactive memory systems; shared mental models; prior experience (to enhance group performance)

Advantage

Knowledge Management Systems to mobilize knowledge and enhance decision-making

Capability

Collective problem-solving processes

Management education training (help employees gain the proper knowledge and skills needed to meet the environmental challenges, support of organizational growth and advancement, through forums for the communication of organizational strategies, new values, tools, and work performance improvement)

Experience

Experience can be acquired directly by the focal organizational unit or indirectly from other units

Executives with long experience in an industry bring detailed knowledge about how that industry operates

Organizational

Measuring Organizational Performance in KM, categorized into four groups: financial measures, intellectual capital, tangible and intangible benefits, and balanced scorecard

Learn

Organizational Learning corporate culture that determines values, beliefs, work systems, encourage learning and knowledge sharing guiding change and innovation

Vicarious Learning: Learn indirectly from the experience of other units as well as directly from their own experience

Change

Collaborative Work to increase creativity (pooling together and integrate effectively different perspectives, knowledge, skills, and abilities on a task)

Innovation

Balance HR Practices regarding Exploration and Exploitation Knowledge Development

Enhancing Quality Performance Procedures: Training; Small Group Problem Solving; Employee Suggestion; Cross-functional Interventions

Mechanisms to assist and enable the management of knowledge and innovation to foster creativity

Workplace

Create and Locate Organizational Knowledge

Action Learning Methods (small groups; learning set; set advisers, a problem/task focus, outcomes focusing on real time action, opportunity for reflection for all learners)

Collective

Network building and Systematic Dissemination of ideas; Professional Networks; Foster Team Demography Diversity

Ideas

Team learning (cross-fertilization of team members and flow of ideas within the team)

Interaction

Team Members Knowledge Contribution: 1. Reward team members' contribution; 2. Create a trust atmosphere to share knowledge; 3.management support to appropriate communication channels (make team members feel their contributions are appreciated)

Group

Identification of new market opportunities through the contribution of employees with valuable knowledge and skills (which are also most flexible in acquiring new skills) to impact innovation

New

Sources of External Knowledge to use in new product development: Suppliers, Customers, Consultants, Benchmarking, Reverse Engineering, Patent Applications, Scientific and Trade Publications, and Conferences

LEGEND:

CREATIVITY ATTRIBUTES

CREATIVITY KM PRACTICES

IS ESPECIALLY RELATED WITH

Figure 93 – Source: Elaborated by the Author

Retention

Internal Labour Market Policies

Human Capital Management - attract, develop and retain employees' with diverse knowledge bases

Experience

Advice given by health professionals from other areas

Organizational Culture

Employment practices that create attractiveness (strong opportunities for career growth and development, for potential

Evidence-informed Decision Making: consideration of the best available research evidence along with other important factors that influence program and policy decisions

Diversity

Diversity Management Procedures focusing in enhancing creativity, innovation and decision-making (promoting the inclusion of individuals into formal programmes and informal networks)

Diversity Management practices and the attraction of high achievers (Women and minority recruitment)

Culture of Inclusion: enables people with distinct experiences, mental models and ways of understanding the world to work together in order to achieve individual, collective and organizational growth

Commitment

Environmental Management System: 1- Provide training; 2- Guarantee effective communication; 3- Motivate employees

Develop and implement HR tactics and action plans in the organization to support the departments in achieving the business objectives

Salary with a Fixed-Base Component combined with a variable component (performance-related)

Activities

EPP (Expert Patients Programme) - improve self-efficacy, enable participants to more effectively manage their condition through courses that focus improving communication skills improvement the patient–professional relationship

Self-Management (Chronic Care) - group programs; content tailored to participants; disease-specific programs or generic programs

Top-down policy programmes of self-management support has to increment effective chronic disease management

Costs

Control on staff recruitment and transfers in line with health service needs

Selection (External)

The job specification lists (of the knowledge, skills and abilities required for applicants to carry out the job duties and achieve performance standards)

Recruitment & Selection Planning Phase (job analysis, review and development of a job description, job specification and person profile for a particular vacancy, development of a competency framework, deciding on the selection criteria and methods)

Qualifications

Implement Competency Frameworks to Enhance Performance

Performance Management of Individual Contribution (combining quality of care provided and the amounts)

Skills (Hard)

Job Analysis (gathering and recording of information on a job /creating the job description and the job specification

LEGEND:

RECRUITMENT ATTRIBUTES	RECRUITMENT KM PRACTICES

IS ESPECIALLY RELATED WITH

Figure 94 – Source: Elaborated by the Author

Incentives

Promote Knowledge Sharing Monetary Reward (from different parts of the organization) and/or Social Reward

Knowledge

Promote Knowledge sharing through monitoring mechanisms, reward policies or social planning

The transfer of routines, tools, and technology across units within the organization

Managerial actions to promote knowledge sharing through proper environment/corporate culture (at different levels individuals, groups, departments and other)

Identify the availability of knowledge as a facilitator of knowledge transfer and implement practices to increase knowledge availability (e.g. employees allocated between units to share routines developed in their original unit with their new unit

Leadership involvement to create Work Environments and an Organizational Culture that influence attitudes towards Knowledge Sharing

Attitude

Supervisory control for motivating knowledge sharing, incentive programs, and efficient communication platforms (e.g. SAP) and /or to induce cooperation among community members, offering the opportunity of self-coordinated behavior

Encourage individuals to contribute to the collective knowledge of the firm and to enhance their own knowledge base through "knowing exactly what they know" programs

Collaboration

Mentoring Programs: emphasizing developmental contacts and interpersonal relationships

Decision Making and Control Mechanisms (conducive to good communication and effective monitoring of the collaboration need to be developed)

HRM mechanisms to enhance trust and performance (to deal with control, trust, and conflict issues)

Create Knowledge

Categorize the Knowledge of the Organization Journals; electronic databases; map relevant domains (e.g. critical organizational studies; disciplinary fields)

Transactive Memory Systems and Common Short-Hand Languages (affect members' ability to create, retain, or transfer knowledge)

High-Commitment Work Systems to built firm-specific knowledge and firm-specific communication channels and values

Learning Environment

Experience through Observation Procedures

Create transparent communication systems, for free-flow of information with real time accessibility of information (about goals, resources, strategies, and achievements etc.) promoting the participation of user

Network technologies to facilitate interaction among learners for acquisition or sharing of knowledge

Web-based technology tool for supported collaborative learning (also may enrich learning performance, individual knowledge construction or group knowledge sharing)

Training (including acquisition of management skills, technology, and cross-cultural under- standing)

Communities of practice (COPs) and other practice-related social networks (to share thoughts, find solutions, and pursue innovation)

Professional virtual communities (PVCs -gather geographically dispersed, like-minded people to form a network for knowledge exchange)

Efficiency Strategy - Development of expert knowledge of young employees to become specialists in a certain function, exploitative learning mode focused on improving and reconfiguration of successful processes and established routines

Organizational Values

Implement Employment System with an Efficiency Orientation - on-the-job training and senior retention that furthers an approach of bureaucratic regulation and can be associated with the internal labor market archetype

Proactive Policy of Management of explicit and implicit knowledge developing employees´ competencies in knowledge management and in promoting knowledge sharing;

LEGEND:

MOTIVATION ATTRIBUTES

MOTIVATION KM PRACTICES

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IS ESPECIALLY RELATED WITH

Figure 95 – Source: Elaborated by the Author

Knowledge Tools

IT and Knowledge management systems integration - organizational processes related to the storage and retrieval of knowledge (and also transfer, creation and application of knowledge)

Integrate Expertise and Knowledge

Value Internal and External Knowledge Outputs - patents, knowledge, employee skills and capabilities, institutional knowledge, experiences around therapeutic protocols or testing methods, knowledge about client preferences and compliance, which is inscribed in relations among clinicians, researchers, and families

KT (Knowledge Translation) process from need to outcome (identifying relevant knowledge flows, repository and networked knowledge, identify key consumers and producers using communities of practice

Talent Management as a core competency of the organization (identifiy strategic human resources)

Repository knowledge: scientific literature (eg, PubMed, conference proceedings); innovation stage; rehabilitation/treatment technology databases

People-oriented soft practices for capturing tacit knowledge for intervention success, more analytical focused practices to capture explicit knowledge

Development of knowledge base and promote the institutionalization of experience

Exchange Experiences

Foster Group "transactive memory systems" to affect group-performance

Socialization practices demand physical proximity and joint action

Knowledge sourcing; Personal networks; Knowledge networks; Inter-organizational networks; Clusters; R&D

Externalization practices that support communities of practice at distance

Promote sourcing relevant knowledge, which is often distributed across organizations and individuals

Collaboration between Organizations

Promote formal (eg, via a set of scores from standardized assessments) and informal (eg, as subjective observations of caregivers, teachers, employers, and family members) knowledge inputs and outputs

Good Communication Channels among different organizational stakeholder groups to facilitate knowledge flow into decision-making

Combination of Ideas and Recombination

Organizational Processes to codify Problem-Solving knowledge

Develop routines that lead employees to integrate their individual knowledge into daily activity of organizations

Exploration

Discovery; Invention and Innovation; R&D; Networked knowledge and communities of practice; families and clients

Organizational Learning (organizational learning from four angles: 1. Adaptive learning; 2. Hypothetic sharing; 3.Development of knowledge base; 4. Effect of institutionalization of experience)

Service and Product Improvement

Develop practices that promote group cooperation, or apprenticeship

Use a task force to tackle a specific problem in the organization

Chief´s Knowledge Officers: strategic perspective that is related with improve customer relations and promoting knowledge management practices

Innovation Strategy

Adopt and develop a knowledge management agenda aided by a Chief Knowledge Officers (CKOs)

Promote an orchestrated organizational innovation policy that combine use of technical capability; managerial ability or learning-based organization; overall operation and performance of each ability of organization

Talent Management; focusing on a small segment of the workforce that distinguishes itself by current performance or future potential and develop talent through "Corporate Institute of Personnel and Development (focusing on 'talent pools', internal and external)

Six Sigma: socialization promotion through the inclusion of individuals in project teams from across functional, hierarchical, and organizational boundaries (e.g., suppliers and customers), and by the attendance of team meetings

Adoption of New Ideas

Identify, Collect, and Compile product/service/intervention development relevant information from stakeholders comparing it with internal stakeholders' perspective

Promote knowledge acquisition mechanisms to acquire, develop and use knowledge (inside and outside the organization)

LEGEND:

NEW IDEAS GENERATION ATTRIBUTES

NEW IDEAS GENERATION KM PRACTICES

IS ESPECIALLY RELATED WITH

Figure 96 – Source: Elaborated by the Author

Firm-Specific Competence

Improve Knowledge Retention through: R&D activities, diversity or breadth of the organization's knowledge base, prior learning experience, shared language, cross-functional interfaces, mental models and problem solving capacity;

-SAP and other IT means to enhance knowledge retention strategies;

Enhance Competence

Developing appropriate learning programs focused on lifelong learning objectives;

Develop personal and intervention-specific learning

Acquire knowledge regarding research management and engage in interdisciplinary interventions

Performance Antecedents

Balance organizational culture, rational goals, open systems (e.g. idea generation, information uptake) and internal processes (e.g. controlling, information management)

Competence Acquisition

Evaluations of experience gained

Leverage the use of information technologies to improve information flow, knowledge sharing and for virtual meetings (Internet B2E portals, e-mail, teleworking for example)

Competence Experience

Mentoring and Partner Programs

Integrate Competence Management Systems into KM System

Collective Skills

-Knowledge Retention Procedures through observations, experiences and actions linked with an Information System available to several departments;

Synergies between Departments: to avoid duplication of work and to collect knowledge (also helps in benchmarking/staff development activities)

Activity Performace

Management of Key Operational Areas: Scheduling management and planning, Cost management; Quality management, Human resources management, Risk management; Knowledge management, Health and safety management, Conflict and dispute management, Ethical management; Stakeholder management; Information technology management, Communication management, Resources management, Financial management, Plant and equipment resources management

Decision-Making Competence

Collaboration, which supports individuals and groups who use content and apply their competences to identify, exchange, and create knowledge;

Close Knowledge Gap

Job rotation

Competence-based learning (CBL): individual trainings and learning paths can be developed to support the learner's development

LEGEND:

LEVEL OF EMPLOYEE COMPETENCE ATTRIBUTES

LEVEL OF EMPLOYEE COMPETENCE KM PRACTICES

IS ESPECIALLY RELATED WITH

Table Annex

Table 1

Human Capital Dimensions encompassed in this Dissertation
Leadership
Creativity
Recruitment
Motivation
New Ideas Generation
Level of Employees´Competence

Table 1- Source: elaborated by the author

Table 2

Table 2- Source: elaborated by the author		
Article Classification per HC Dimension		
HC Dimension	Number of Articles	Number of Relevant Articles
Leadership	178	82
Creativity	147	69
Recruitment	224	88
Motivation	124	54
New Ideas Generation	158	69
Level of Employee Competence	138	55

Table 3

Article Classification per HC Dimension and per Year

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total
Leadership		1		1		4	5	1	1	3	5	12	23	23	3	82
Creativity			1	1	4	1	4	1	7	2	5	14	17	10	2	69
Recruitment	2		2	2	1		5	2	5	8	3	18	18	18	4	88
Motivation					2	2				3	2	10	17	16	3	54
New Ideas Generation	1					3	2	1			1	18	13	21	9	69
Level of Employee Competence			2		1		3		2	1	2	19	11	8	6	55
Total	3	1	5	4	8	10	19	5	15	17	18	91	98	96	27	417

Table 4

Table – 4: Diverse perspectives of knowledge and their and their implication for KM;

Source: Source: M. Alavi and Leidner (2001) in Kang et al.(2005); p.470

	Perspectives	Implications for KM
State of mind	Knowledge is the state of knowing and understanding	KM involves enhancing individual's learning and understanding through provision of information
Object	Knowledge is an object to be stored and manipulated	Key KM issue is building and managing knowledge stocks
Process	Knowledge is a process of applying expertise	KM focus is on knowledge flows and the process of creation, sharing, and distributing knowledge
Access to information	Knowledge is a condition of access to information	KM focus is organized access to and retrieval of content
Capability	Knowledge is the potential to influence action	KM is about building core competencies and understanding strategic know-how

Source: M. Alavi and Leidner (2001) in Kang *et al.*(2005); p.470

Table 5

Table – 5: Different KM Studies according to Specificity; Source: KM Studies - K. Chang Lee et al. (2005); p.471			
Category	**Implications**	**Sub-categories**	**Researchers**
General	Several managerial and social issues pertaining to KM are dealt with	KM strategy and organizational culture	K. C. Desouza (2003) M.H Zack (1999)
		Specific processes and activities within KM	M. Alavi (1997) C.W. Choo (1998) C.W. Holsapple and K.D. Joshi (2002). D. Mirchandani and R. Pakath (1999) G. Petrash (1996) G. Szulanski (1996) R. Van der Spek and A. Spijkervet (1997)
		Review and research agenda	M. Alavi and D.E. Leidner (2001) T.H. Davenport and V. (2001) A.H. Gold, A. Malhotra and A.H. Segars (2001)
Learning organization	Firms maintain organizational knowledge to obtain a sustainable competitive advantage	Organizational knowledge	L.M. Markus (1991–1992) P.M. Senge (1990) R. Stata (1989) E.W. Stein and V. Zwass (1995) I. Tuomi (2000) J.P. Walsh and G.R. Ungson(1991)
		Learning capability and design of leaning organization	D. Leonard-Barton (1995) R.B. Shaw and D.N.T. Perkins (1992) R. Purser, W. Pasmore and R. Tenkasi (1992) A. Van de Ven and D.

			Pooley (1992)
Role of IT	KM should be supported by IT and/or KMS so that KM can contribute to increasing management performance	Knowledge management system (KMS)	C. Bartlett and McKinsey & Company (1996) T.H. Davenport, S.L. Jarvenpaa and M.C. Beers (1996) P.H. Gray (2000) W.B. Rouse, B.S. Thomas and K.R. Boff (1998) S. Sensiper (1997) S.A. Watts, J.B. Thomas and J.C. Henderson (1997)
		Role of IT in KM in general	G. Fritz-Bustamante (1999)
		Role of IT for specific KM activities	D. Squires (1999) D. Suthers(1999)
		Knowledge Mining and DSS for KM	C.W. Holsapple and K.D. Joshi (2001) W.B. Rouse, B.S. Thomas and K.R. Boff (1998) I. Spiegler (2003)
		Strategic Use of the Internet	N.H.M. Caldwell, P.A. Rodgers, A.P. Huxor and P.J. Clarkson (2000) R. Dieng (2000) J. Domingue and E. Motta (2000) P. Martin and P.W. Eklund (2000) A. Rabarijaona, R. Dieng, O. Corby and R. Ouaddari

			(2000)
			D.G. Schwartz and D. Te'eni (2000)
			S. Szykman, R.D. Sriram, C. Bochenek, J.W. Racz and J. Senfaute (2000)
Success and failure factors	Success factors for KM should be given sufficient consideration before launching KM strategy		T.H. Davenport, S.L. Jarvenpaa and M.C. Beers (1996) G.V. Krogh (1998) R. Ruggles (1998)
Evaluation of KM performance	Valuing and measuring intangible assets promotes organizational. learning and generates organizational capabilities	Intellectual capital	A. Brooking (1996) L. Edvinsson (1997) K.E. Sveiby (1998)
		Balanced Score Card	R.S. Kaplan and D.P. Norton (1992)
		Strategic organizational learning and organizational capabilities	D. Leonard and S. Sensiper (1998) A.P. Massey, M.M. Montoya-Weiss and K. Holcom(2001) J. Roos and G. Roos (1998) T. Sakaiya (1991) T.A. Stewart (1997) D.J. Teece (1998)

Table 6

Table – 6: Major Steps of KM Cycle							
Reference	**Phases of Knowledge Management**						
Alavi and Leidner (2001)	Creation	Storage	Transfer	Application			
Allee (1997)	Collect	Identify	Create	Share	Apply	Organize	Adapt
Argote (1999)	Share	Generate	Evaluate	Combine			
Bartezzaghi et al. (1997)	Abstration and Generalization	Embodiment	Dissemination	Application			
Davenport and Prusak (1998)	Determine Requirements	Capture	Distribute	Use			
Despres and Chauvel (1999)	Mapping	Acquire	Package	Store	Share	Reuse	
		Capture			Transfer	Innovate	
Dixon (1992)	Acquire	Distribute	Interpret	Making Meaning	Org.Memory	Retrieve	
Horwitch and Armacost (2002)	Create	Capture	Transfer	Access			
Huber (1991)	Acquisition	Distribution	Interpretation	Org.Memory			
Nevis et al. (1995)	Acquisition	Sharing	Utilization				
Stein and Zwass (1995)	Acquisition	Retention	Maintenance	Retrieval			
Szulanski (1996)	Initiation	Implementation	Ramp-up	Integration			
Walsh and Ungson (1991)	Acquisition	Storage	Retrieval				
Wiig (1997)	Creation	Capture	Transfer	Use			
Phases of Knowledge Management (based on Sverlinger, 2000) in Sedera *et al*. (2010); p.298							

Table 7

Table – 7: Perspectives on the Resource-Based View (RBV) across business areas; Source: Elaborated by the Author		
Author	**Area**	**Definition**
Lee1, Tsai, and Amjadi (2011); p.30	Engeneering Firms	"The RBV perspective argues that knowledge is a competence, which can be accumulated by information systems and can become a significant organizational capability."
Martens, Streukens, Matthyssens and Sluyts (2011); p.877	Non-Specified Belgian Firms	"The resource-based view of the firm (RBV) has emphasized the notion that resources owned or controlled by the firm have the potential to provide enduring competitive advantage when they are inimitable and not readily substitutable"
Vidal-Salazar, Hurtado-Torres and Matías-Reche (2013); p.2683	Non-Specified Firms (Training Industry)	"Companies aiming to obtain lasting competitive advantages must be aware of those abilities that differentiate the company from its competitors. In this sense, personnel training may stimulate the development of certain capabilities related to the company's human resources, which could support this differentiation and hence the desired competitive advantage."
Killen, Jugdev, Drouin and Petit (2012); p.526	Non-Specified Project Management Firms	"The RBV examines how an organization's resources drive competitive advantage. The RBV assumes that resources and capabilities are not uniform across competing organizations, and uses this heterogeneity to explain differences in organizational success rates. According to the RBV, resources that are valuable, rare, inimitable, and non-substitutable (VRIN) or valuable, rare, inimitable, and involve organizational focus and support (VRIO), form the best basis for sustainable competitive advantage".
Thompson and Heron (2005); p.1032	UK Aerospace Industry	"The RBV perspective suggests that human resource advantage or the superiority of one firm's HRM system over another is rooted in causally ambiguous, socially complex and historically evolved processes. Managers are central to the

		design of these processes, which in turn lead to the creation of unique, rare and non-imitable resources."
Phipps, Prieto (2012); p.48	Automotive Industry	"Knowledge is a major organizational resource. This perspective is maintained by the knowledge-based view of the firm (KBV), and builds upon and extends the resource-based view (RBV)".
Hsu, Choon Tan, Laosirihongthong and Keong Leong (2011);p. 6632	Non-Specified Automotive ASEAN Firms	"The RBV assumes that gaining and preserving a sustainable competitive edge is a function of the firm's core resources and capabilities. These resources and capabilities are the key source of a firm's success, and heterogeneity in organizational resources leads to varied competitive advantages and performance".
Haesli and Boxall (2007); p.1956	Engineering Firms	"The basic idea behind the RBV is that firms can be conceptualized as bundles of resources, some aspects of which can only be developed internally and which have the potential to positively differentiate the firm."
Kylaheiko, Jantunen, Puumalainena, and Luukka (2011);p.275	IT Firms	"Now the concept of knowledge as a public good was challenged and firm specific heterogeneous resources were treated as the main sources of competitive advantage. This tradition that rapidly became the leading one in the field of strategic management was called the resource-based view of the firm (RBV)."
Durmuşoğlu, Barczak (2011); p.322	IT Firms	"The resource-based view (RBV) suggests that firms have different resources and capabilities and that performance depends on how those particular resources and capabilities are deployed."
Bhamra, Dani and Bhamra (2010); p.4	Non-Specified UK SME Firms	"Within the emerging resource-based view of the firm, the belief is that a competitive advantage arises from strategy based upon the usage of special, rare and tacit bundles of resources held within the boundary of an organization."
Camisón, Forés (2010); p.707	Non-Specified Spanish Firms	"Knowledge represents a critical resource to create value and to develop and sustain competitive advantages. "

Table 8

Author	Area	Definition
Table – 8: Perspectives on the Knowledge-Based View (KBV) across business areas; Source Elaborated by the Author		
Haesli and Boxall (2007); p.1957	Engineering Firms	"KBV proceeds from a self-evident assertion: firms are dependent to some extent on an ability to internally create the knowledge required to adapt to their environments. The argument generally runs as follows: formal repositories and documentation are effective for capturing knowledge that can be easily communicated, but are unable to capture critical 'tacit' knowledge."
Johnston and Paladino (2007); p.282	Multinational Corporations and Australian Subsidiaries	"An accumulation of such resources impedes current and potential competitors from quickly replicating the firm's 'relatively impregnable bases'."
Linderman, Schroeder, Zaheer, Liedtke and Choo (2004); p.593	Non-Specified Management Firms	"The knowledge-based view (KBV) of the firm provides one theoretical perspective in understanding how quality management leads to performance. According to this view, knowledge is a crucial resource for a firm and a source of competitive advantage that improves firm performance".
Sekiguchi, Bebenroth,Li, (2011);p.100	Multinational Corporations and Afilliates in Japan	"The knowledge-based view (…) proposes that firm performance is largely determined by the firm's resources that are valuable, rare, inimitable, and non-substitutable. Thus, knowledge that is created (…) is considered to be a critical part of the firm's resources that are the source of sustainable competitive advantage."
Phelps, Heidl and Wadhwa (2012); p.2	Non-Specified Management Firms	"Knowledge-based view of the firm, theorizing firms exist because they provide efficiency advantages in the use, creation and commercialization of knowledge relative to markets".

Table 9

Table – 9: Perspectives on the Dynamic Capabilities (DC) across business areas; Source: Elaborated by the Author		
Author	**Area**	**Definition**
Cepeda, Vera (2007); p.427	Information technology and communication industry in Spain	"Despite a lack of agreement about the nature of dynamic capabilities, consensus is emerging about the need for a hierarchy of capabilities, taking into consideration four critical aspects: (1) Capabilities are organizational processes and routines rooted in knowledge, (2) The input of dynamic capabilities is an initial configuration of resources and operational routines, (3) Dynamic capabilities involve a transformation process of the firm's knowledge resources and routines, and (4) The output of dynamic capabilities is a new configuration of resources and operational routines".
Sher, Lee (2004);p.933	Non-Specified Firms (IT Sector)	"Dynamic capabilities refer to an organization's ways of responding in a rapidly changing environment. When the knowledge assets of a firm are exploited, the firm sees enhanced dynamic capabilities and increased business value. Like-wise, good management of the integrative learning mechanisms of endogenous knowledge promotes dynamic capabilities and thus builds competitive advantage. Recent studies in strategic management have increased attention to both theoretical and empirical convergences of KM with dynamic capabilities perspective. IT is a fundamental dimension of this."
Ferlie,Crilly, Jashapara, Peckham (2012); p.1300	Non-Specified Firms (Health Sector)	"Dynamic capabilities are "the firm's ability to integrate, build, and reconfigure internal and external compe-tences to address rapidly changing environments".
Morales, Barrionuevo, Gutiérrez (2012); p.1043	Non-Specified Spanish Firms	"Strategic theories stress that organizations that adopt an innovation first are able to create isolation mechanisms. Because knowledge of the innovation is not available to competitors, these mechanisms protect profit margins, enabling the organization to gain important benefits. Likewise, the theory of resources and capabilities maintains that the capabilities, resources and technologies needed to adopt the innovation make external imitation more difficult and allow firms to sustain their competitive advantages and obtain greater organizational performance".

Table 10

Table – 10: Perspectives on the Absorptive Capacity (AC) across business areas; Source: Elaborated by the Author		
Author	**Area**	**Definition**
Camisón, Forés (2010); p.708	Non-Specified Spanish Firms	"Absorptive capacity is the capacity of a firm to value, assimilate and apply, for commercial ends, knowledge from external sources. This new approach considers absorptive capacity as a by-product not only of R&D activities, but also of the diversity or breadth of the organization's knowledge base, its prior learning experience, a shared language, the existence of cross-functional interfaces, and the mental models and problem solving capacity of the organization's members."
Kyläheiko, Jantunen, Puumalainen, Luukka, (2011); p.274	Non-Specified Firms (Mangement Sector)	"Between the two extreme poles is the partly tacit and partly codified knowledge type called generic knowledge, which is often based on science. The ability to exploit these bits of knowledge crucially depends on the ability to decode. This capability has been called (…) absorptive capacity."
Killen, Jugdev, Drouin, Petit (2012); 528	Non-Specified Project Management Firms	"The need to appreciate and acquire knowledge from the external environment is central to the AC concept, often enhanced by internal processes of learning from past experience and current actions".
Chang and Tzeng (2010); p.139	Taiwanese High-Tech Industry	"The absorptive capabilities is a set of procedures of analyzing knowledge accumulation and knowledge transformation, a competitive advantage is sustained and created through the development of dynamic capabilities. Thus the absorptive capabilities enhance the organizational innovation performance. There are relations within the three."
Shu and Chuang (2011); p.674	Non-specified firms (IT Sector)	"Absorption capacity is not only the ability to understand, but also the ability to apply the knowledge."
Loke, Downe, Sambasivan, Khalid, (2012); p.778	Non-Specified Firms (Retail Sector)	"The level of knowledge overlap between partners, including the ability of a firm to value, assimilate and commercially utilize new, external knowledge."
Balogun and Jenkins (2003); p.249	Non-Specified Firms (Architecture Sector)	"Absorptive capacity is to do with the ability to absorb new knowledge. Absorptive capacity will be higher when there is already prior knowledge of a particular specialist area, making it easier to absorb new knowledge about this specialism. Absorptive capacity suggests that the ability to absorb new knowledge is enhanced by prior knowledge in a particular special-ist area. It enables organizations to identify the value of new knowledge more effectively than organizations with little prior knowledge."
Wittmann, C. Michael (2009); p.176	Non-Specified Firms (Franchise Sector)	"The notion of absorptive capacity (…) has also been suggested as a a a critical requirement for how well a firm exploits

its knowledge resources."

Berta, Teare, Gilbart, Ginsburg, Lemieux-Charles, Davis, Rappolt (2010); p.1327	Canadian Healthcare Firms	"The theory is ''absorptive'' or ''learning capacity,'' a concept that specifies an organization's ability to recognize the value of new knowledge and information, assimilate it, and then apply it to make high-quality decisions (...); this concept has been referenced more recently in the health services literature as relevant to an organization's ability to assimilate innovations."
Chen, Chen (2010); p.3193	Non-Specified Firms (IT Industry)	"The acquisition of knowledge aims to extend organizational knowledge, so absorptive capability of organization is vital for creation, diffusion and accumulation of knowledge."
Marsh, Stock (2006); p.425	Non-Specified Firms (IT and Telecomunications Provider Sector)	"The organization´s absorptive capacity is greater in areas of past learning and it is therefore more successful at perceiving, assimilating and applying new knowledge in these areas."
Huber and Franz (2013); p.167	IT firms in the United Kingdom	"Absorptive capacity, the ability to recognise, absorb and utilize outside sources of knowledge, has been identified as critical for organizations."
Reich, Gemino and Sauer (2012); p.665	Non-Specified Firms	"The ability to absorb a diverse range of knowledges and make use of them".
Haugland, Ness, Grønseth and Aarstad, (2011); p.279	Tourism Firms	"The actor's ability to use the new information to commercial ends. Actors at destination B need to relate the information acquired from destination A to a different context involving different resources than those possessed by A. In this process, interpretations need to be shared and related to the local context in order to be exploited innovatively."
Cepeda and Vera (2007); p.429	Non-Specified Firms	"Access to knowledge depends on factors such as awareness of its existence and potential, the presence of channels for communicating knowledge, and the absorptive capacity of the possible users. A critical element in the systematic integration of new knowledge is the existence of a KM infrastructure, which encompasses the people, technology, and procedures the company dedicates to the management of knowledge."
DiLiello, Houghton, Dawley (2011); p.157	American Government and IT Sectors	"Absorptive capacity is the ability to identify useful information that can be used constructively. Information, in the form of relevant knowledge, must be able to flow freely across organizational units to various organizational actors."
Formentini and Romano (2011); p.546	Multi-Project-Based Firms	"Recipient's lack of absorptive capacity (in other words recipients might be unable to exploit external sources of knowledge), causal ambiguity (the difficulty in the replication of a routinized use of knowledge is most likely to arise from ambiguity about what the factors of knowledge creation are and how they interact during this process) and the arduousness of the relationship between source and recipient (laborious and distant relationships might create additional hurdles in the transfer) are the most important barriers to knowledge transfer within the firm."
Lee and Steen (2007); p.3	American Automotive and IT Sectors	"An organization's ability to leverage new information depends on its "absorptive capacity," which is a function of its prior knowledge in a

		related area."
Asoh, Belardo and Neilson (2002); p.4	Non-Specified (Government Sector)	"External boundary spanning that has been shown to dramatically improve an organization's absorptive capacity and its ability to learn, innovate and compete is dependent upon which knowledge sources are available. Its culture determines the success of its degree to internal boundary spanning capability and the which individuals are capable of communicating with one another and their willingness to share what they know."
Ferlie, Crilly, Jashapara and Peckham (2012); p.1300	Non-Specified Firms (Health Sector)	The concept of 'absorptive capacity' refers to an organization's effectiveness in sensing, acquiring and using new knowledge".

Table 11

Table – 11: Perspectives on Intellectual Capital (IC); Source: Elaborated by the Author	
Author	**Definition**
London, Siva (2011) p.847	Intellectual capital is a firm's collective skills, competences and knowledge and is critical to the sustainability of firms, particularly in international markets."
Suhonen, Paasivaara (2011) p.247	Intellectual capital, which means knowledge, information, intellectual property and experience that, can be put to use to create wealth."
Zhao (2008) p. 806	Intellectual capital is not only a static intangible asset, but a kind of process of 'ideological morphing-formation' and a method of 'goal-reaching'.
Cabello-Medina, López-Cabrales, Valle-Cabrera (2011) p.808	"Conceptualized as the knowledge and knowing capability of an organization, represents one of the most relevant antecedents of innovation, which has become fundamental for achieving competitive advantage."
FitzPatrick, Davey, Muller, Davey (2013) p.87	"A multi-dimensional concept lacking a universal definition; multiple terms used interchangeably. This paper uses intellectual capital as a comprehensive term for 'invisible' assets that contribute to a company's value."
Chau, Moghimi, Popovic (2013) p.11	"Intellectual capital encompasses not only legally enforceable intellectual property (e.g., patents)"
Haesli, Boxall (2005) p.1957	"Intellectual capital within a core capability is comprised of four integrated dimensions. The first two dimensions (employee knowledge and skills, and technical systems) refer to knowledge content, and the third and fourth dimensions (managerial systems, and values and norms) refer to the processes surrounding knowledge creation and control within the organization. Popular writings in recent years on the subject of intellectual capital have defined human capital as one category of intellectual capital (in addition to structural capital and customer capital)".

Table12

Table – 12: Perspectives on Social Capital (SC); Souce: Elaborated by the Author

Author	Definition
London and Siva (2011) p.847	Social capital is the creation of personal relationships and networks based on trust built over time and has relevance for the project team and firm and client networks."
Land, Engelen, Brettel (2012) p.521	"Social capital theory argues that specific elements of external and internal social relationships present valuable learning resources" this view emphasizes the importance of the relational over technical assets of the organization..
Lamb, Sutherland (2010) p. 299	"Social capital – Relationships, social networks and acts of exchange which can be used to strengthen economic and cultural capital."
Cabello-Medina,López-Cabrales, Valle-Cabrera (2011) p.810	It has been conceptualized as the sum of the actual and potential resources embedded within, available through and derived from the networks of relationships possessed by an individual or social unit."
Navarro, Dewhurst, Eldridge (2010) p.389	"Customer capital is the value (i.e., the contribution to current and future revenues) that results from an organization's relationship with its customers".
Sun, Anderson (2012) p.315	"Social capital is built through past interactions, and consists of who leaders know and how well they are connected to important outside stakeholders and potential collaborators. This social capital can be leveraged in order to advance collaboration agendas."
Cappellin (2012) p. 909	"Thus, community networks require the sharing of a homogeneous culture and common values and are characterized by the existence of trust relationships and common institutions and specialized intermediate social organizations, which are defined as social capital."
FitzPatrick, Davey, Muller,Davey (2013) p.87	"The value embedded in the company's relationships with its external stakeholders, often referred to as the company's 'customer capital'. Examples: Marketing channels, brand names, reputation, distribution channels, customer satisfaction, franchisees, suppliers, and partners."
Chau, Moghimi, Popovic (2013) p.11	"Social Capital (eg, knowledge about client preferences and compliance, which is inscribed in relations among clinicians, researchers, and families)."
Huber (2013) p.168	"Personal knowledge networks refers to a set of individuals and their knowledge relationships, whereas personal knowledge con- tact refers to the person which whom somebody has a knowledge relationships with. The qualitative strength of personal relation- ships can have implications for knowledge sourcing, and there can be a trade-off between maintaining a high number of weak ties versus few strong ties ".

Table 13

Table – 13: Perspectives on Human Capital (HC); Source: Elaborated by the Author

Author	Definition
Suhonen, Paasivaara (2011) p.247	"Human capital embodies the knowledge, talent and experience of employees."
Lamb, Sutherland (2010) p. 297	"Individual's level of human capital, comprising of judgement, skills, experience and intelligence, differs in degree of value in the external labour market, human capital consists of both company specific skills and general skills. In the new world of work, the general skills become more relevant and valuable in the broader labour market."
Hansen, Alewell (2013) p.6	"Human capital is not the only part of the organization's overall knowledge stocks that influence the constitution, development and reproduction of organizational capabilities."
Cabello-Medina, López-Cabrales, Valle-Cabrera (2011) p.809	"The human capital of an organization is defined as the knowledge, skills and abilities (KSA) residing with and utilized by individuals."
De Winne, Sels (2010) p. 1867	"Human capital refers to the unique set of knowledge, skills and abilities of workers acquired from education and experience. It reflects a large part of the stock of knowledge within an organization."
FitzPatrick, Davey, Muller,Davey (2013) p.87	"The resources that relate to individuals and which cannot be replaced by machines or written down. They are a key source of potential strategic renewal. An individual chooses to give a company access to these. Examples: Education, skills, attitude, know-how, innovativeness, intellectual agility, competencies, training of employees, and directors/executives."
Chau, Moghimi, Popovic (2013) p.11	"Human capital (eg, knowledge, skills, and capabilities of rehabilitation engineers

	and clinicians)"
Vidal-salazar, Matías-reche, Hurtado-torres (2013) p.2685	"Human capital, which represents the employees' knowledge, skills and capabilities."
Prieto Pastor, Pérez Santana, Martín Sierra (2010) p. 2455	"Employees' skills and abilities have long been conceptualized as human capital"

Table 14

Table – 14: The main Leadership Theories according to relational and task focus perspectives	
Relationally Focused Leadership Styles	**Task Focused (or non-relationally focused)**
"Transformational Leadership: which motivates others to do more than they originally intended and often more than they thought possible" ;	"Management by Exception: focuses on monitoring task execution for any problems that might arise and correcting those problems to maintain current performance levels" ;
"Individualized Consideration: which focuses on understanding the needs of each follower and works continuously to get them to develop to their full potential";	"Laissez-Faire: conceptualized as passive avoidance of issues, decision-making and accountability (Avolio et al., 1999). Passive – avoidant leadership tends to react only after problems have become serious to take corrective action, and often avoids making any decisions at all";
"Resonant Leadership: that inspires, coaches, develops and includes others even in the face of adversity (Boyatzis and McKee, 2005; Goleman et al., 2002)";	"Transactional Leadership: emphasize the transaction or exchange that takes place among leaders, colleagues and followers to accomplish the work" ;
LMX (Leader Memeber Exchange): "Emphasized how leaders develop two distinct types of relationships with their followers: one based on "influence without authority" and one based on "influence with authority" (…). The ability of the leader to influence without authority was characterized by higher levels of mutual support, trust, loyalty, and latitude given to their followers. Conversely, influence with authority was based primarily on more formal supervisory roles and techniques".	"Dissonant Leadership Styles: characterized by pacesetting and command- ing styles that undermine the emotional foundations required to support and promote staff success";
"Trait Theories: argued that certain personality characteristics distinguish leaders from non-leaders. The initial hope was that the identification of such traits (such as intelligence, sociality, and dependability) would enhance personnel selection".	"Instrumental Leadership: focuses on the strategic and task-oriented developmental functions of leaders";
	"Behavioral Theories: Identifies specific behaviors and behavioral dimensions that would distinguish effective leaders from ineffective ones";
	"Contingency Theories: took into account situational factors acting as potential constraints or opportunities for leaders. (…) posited that leadership effectiveness depends on the interaction of leadership style with features of the situation he referred to as "situational favorableness".
	"Shared Leadership: a dynamic, interactive influence process among individuals in groups for which the objective is to lead one another to the achievement of group or organizational goals or both."

Hernandez, Eberly, Avolio and Johnson (2011) adapted from "The loci and mechanisms of leadership: Exploring a more comprehensive view of leadership theory"; p.1169-1173

Table 15

References Attributes	A1 … A82	SUM
Attentive to Followers Needs		27
Awareness		8
Charismatic		30
Clarity		8
Commitment		12
Communicative		14
Confidence		18
Conscientiousness		6
Control		15
Convey Positivity		17
Cooperation		13
Coordinator		20
Courageous		2
Creative		9
Decision Maker		20
Provides Development		4
Efficient		18
Emotional Intelligent		19
Empowering		9
Encourage Followers		41
Ethical		7
Experienced		11
Expert		9
Facilitator		10
Fair		9
Provides Feedback		3
Formal Leadership		46
Fosters Individualized Consideration		11
Fosters Intellectual Stimulation		15
Fosters Psychological Commitment		6
Fosters Human Values		18
Ideas Provider		16
Influential		19
Informal Leadership		42
Initiative		12
Inspirational		23
Intelligent		22
Maintains Relationships		22
Managing Employees		17
Mitigate Challenges		9
Mobilize Workers		6
Morally Disciplined		7
Morally Virtuous		4
Motivational		62
Orientation Provider		21
Fosters Performance		8
Provides Perspective		6
Enables Planning		15
Power to Mobilize Resources		4
Enables Problem Solving		6
Provides Self-Efficacy		12
Quality Supervisor		3
Responsible		17
Share Vision		9
Source of Knowledge		5
Strategic Thinking		11
Provides Support		17
Transactional		26
Transformational		44

Column totals: 16 14 9 14 6 11 9 9 8 6 7 3 12 7 6 20 16 14 11 4 8 13 19 6 18 12 11 21 13 12 15 8 9 17 6 11 6 26 7 7 10 17 7 8 13 12 3 9 2 12 19 11 8 21 16 9 7 9 19 5 6 8 4 17 14 11 12 5 11 19 5 15 17 18 17 9 17 9 13 4 18 7 — SUM 920

References Leadersip:				
A1 -Chi, Lan, Dorjgotov (2012)	A20- Killen,Jugdev,Drouin, Petit (2012)	A-39 Martín-Alcázar, Romero-Fernández, Sánchez-Gardey (2012)	A-58 Huang, Hsu, Chiau (2011)	A-77 Cummings, MacGregor, Davey, Lee, Wong, Lo, Muise, Stafford (2009)
A2-Awazu, Desouza (2004)	A21- Irani, Sharif (2012)	A-40 Paulo Ferreira (2009)	A-59 Chen (2011)	A-78 Raub, Von Wittich (2004)
A3- Eppler, Sukowski (2000)	A-22 Gairín-Sallán, Rodríguez-Gómez,Armengol-Asparó (2010)	A-41 Lakshman (2005)	A-60 Jackson (2012)	A-79 Simosi, Xenikou (2010)
A4- Salo (2009)	A-23 A. Jones (2005)	A-42 García-Morales, Jiménez-Barrionuevo, Gutiérrez-Gutiérrez (2012)	A-61 Liu, Chiu, Chiu (2010)	A-80 Furunes, Mykletun, Solem (2010)
A5- Van Grinsven, Visser (2011)	A-24 Alvesson, Spicer (2012)	A-43 Bellou (2011)	A-62 Wright, Quick (2011)	A-81 Ensari, Riggio, Christian, Carslaw (2011)
A6- Bhatnagar (2007)	A-25 Zhang, Fu, Xi, Li, Xu, Cao, Li, Ma, Ge (2012)	A-44 Nienaber (2010)	A-63 Yee, Lee, Yeung, Cheng (2013)	A-82 Goel, Sharma, Rastogi (2010)
A7- Meng (2012)	A26- Fitzgerald, Ferlie, McGivern, Buchanan (2013)	A-45 DeChurch, Hiller, Murase, Doty, Salas (2010)	A-64 Taylor, Cocklin, Brown, Wilson-Evered (2011)	
A8-Thomas, Mengel (2008)	A-27 Fairhurst, Uhl-Bien (2012)	A-46 Carmeli, Schaubroeck, Tishler (2011)	A-65 Contractor, DeChurch, Carson, Carter, Keegan (2012)	
A9- Suhonen, Paasivaara (2011)	A-28 Söderlund and Maylor (2012)	A-47 von Lubitz, Beakley, Patricelli (2008)	A-66 Phillips (2005)	
A10- Menkhoff, Loh, Wah, Evers (2006)	A-29 Fernandez, Cho, Perry (2010)	A-48 Smith, Anell, Busse, Crivelli, Healy, Lindahl, Westert, Kene (2012)	A-67 Supic, Bjegovic, Marinkovic, Milicevic, Vasic (2010)	
A11- Kim, Sharman, Cook-Cottone, Rao, Upadhyaya (2012)	A-30 Hansson, Mønsted (2008)	A-49 Cowan-Sahadath (2009)	A-68 Yeh, Huang, Yeh (2011)	
A12-Littleton (2009)	A-31 Benson, Blackman (2008)	A-50 Van Grinsven, Visser (2011)	A-69 Gerson (2005)	
A13- Cavazos, Patel, Wales (2012)	A-32 Lord, Shondrick (2011)	A-51 Shamir (2011)	A-70 Hernandez, Eberly, Avolio, Johnson (2011)	
A14- VanVactor (2012)	A-33 Kirkman, Rosen, Tesluk, Gibson (2004)	A-52 Argote, Miron-Spektor (2011)	A-71 Cascio, Mariadoss, Mouri (2010)	
A15- Lakshman, Weber, Fried (2011)	A-34 Andrews, Richard, Robinson, Celano, Hallaron (2012)	A-53 Chen, Wu (2011)	A-72 Sun, Anderson (2012)	
A16- Rosing, Frese, Bausch (2011)	A-35 Johansson, Andersson, Gustafsson, Sandahl (2010)	A-54 Zhang, Jia, Gu (2012)	A-73 Phan, Abdallah, Matsui (2011)	
A17-Lloyd-Walker, Walker (2011)	A-36 Markham (2012)	A-55 Walker, Cooke, Henderson, Creedy (2011)	A-74 Waldman, Balthazard, Peterson (2011)	
A18- Dyck, Starke, Mischke, Mauws (2005)	A-37 Pinel, Pecos (2012)	A-56 Caldwell, Dixon, Floyd, Chaudoin, Post, Cheokas (2012)	A-75 Diddams, Chang (2012)	
A19- DeTienne, Dyer, Hoopes, Harris (2004)	A-38 Morgeson, DeRue, Karam (2010)	A-57 Giritli, Yazıcı, Oraz, Acar (2013)	A-76 Asoh, Belardo, Neilson (2002)	

Table 16

Table 16-Leadership KM Practices in the Literature; Source: elaborated by the author

References to KM Practices	SUM
Knowledge Aquisition	24
Knowledge Development	29
Knowledge Distribution	33
Knowledge Utilization	39
Knowledge Retention	29
SUM	154

Table 17

Table – 17: Perspectives on Creativity; Source: Elaborated by the Author	
Author	**Creativity Definition**
Yeh, Yu-chu Yeh, Yi-ling Chen, Yu-Hua 2012	Production of novel and useful ideas, being innovation the implementation of creative ideas within an organization; all innovation begins with creative ideas. Creativity is a necessary condition for subsequent innovations. The focus of creativity is primarily on the individual levels, innovation is more at the group and organizational levels;
DiLiello, Trudy C Houghton, Jeffery D Dawley, David 2011	The process of forming novel, useful and appropriate ideas;
Coelho, Augusto, Lages 2011	The development of ideas about prac- tices, procedures, products, and/or services that are novel and potentially useful to an organization;
Berman, Kim 2010	Development of ideas or practices that are novel and actionable in addressing a specific problem
Rosa, Qualls and Fuentes (2008)	The recombination of existing knowledge into novel configurations
Phipps,College, State Prieto (2012)	Creativity involves the generation of ideas, procedures, or products that are novel or original, and potentially relevant for, or useful to, an organization. Aresponse that is novel, appropriate, and useful to the task at hand.
Jiang, Wang, Zhao (2013)	A context-specific subjective judgment of the novelty and value of an outcome of an individual's or a collective's behavior
Song, Nerur, Teng (2007)	Outcome of work practices that generate new and novel ideas or solutions. The ability to generate new and novel ideas or solutions ;
Stocker,Granitzer,Hoefler, Pammer, Willfort, Koeck, Tochtermann (2008)	Creativity is the process of generating new ideas on an individual or group basis;
Choi, Lee (2003)	Creativity is the capability of creating valuable and useful products, services, ideas, or procedures by individuals working together in a complex social system.

Table 18

Table 18 – Creativity Literature Attributes; Source: Elaborated by the Author

References Attributes	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12	A13	A14	A15	A16	A17	A18	A19	A20	A21	A22	A23	A24	A25	A26	A27	A28	A29	A30	A31	A32	A33	A34	A35	A36	A37	A38	A39	A40	A41	A42	A43	A44	A45	A46	A47	A48	A49	A50	A51	A52	A53	A54	A55	A56	A57	A58	A59	A60	A61	A62	A63	A64	A65	A66	A67	A68	A69	SUM
Ability																																																																						10
Absorptive Capacity																																																																				10
Advantage																																																																				38
Atmosphere																																																																				8
Autonomy																																																																				23
Behavior																																																																				29
Brand																																																																				6
Capability																																																																				27
Change																																																																				44
Climate																																																																				22
Collective																																																																				31
Combination (Internal/External)																																																																				29
Competitive																																																																				36
Complex																																																																				36
Conflict																																																																				24
Construct																																																																				36
Conversion																																																																				7
Cooperation																																																																				18
Creation																																																																				31
Critical																																																																				43
Diversity																																																																				23
Dynamic																																																																				46
Engagement																																																																				10
Environment																																																																				49
Experience																																																																				45
Explicit																																																																				33
Exploration																																																																				21
Firm-Specific Routine																																																																				15
Generation																																																																				31
Group																																																																				55
Ideas																																																																				48
Implementation																																																																				26
Improvement																																																																				25
Individual																																																																				22
Initiative																																																																				24
Innovation																																																																				52
Interaction																																																																				41
Learn																																																																				46
New																																																																				50
Openess																																																																				18
Organizational																																																																				46
Performative																																																																				49
Personality																																																																				47
Practices																																																																				14
Problem Solving																																																																				14
Process																																																																				27
Product																																																																				19
Project																																																																				22
Recombination																																																																				6
Relational																																																																				6
Service																																																																				16
Shared Experiences																																																																				16
Skills																																																																				23
Social																																																																				32
Solution																																																																				30
Spontaneous																																																																				8
Tacit																																																																				21
Talent																																																																				18
Teaching																																																																				13
Team																																																																				45
Techniques																																																																				21
Thinking (styles/skills/original/new)																																																																				31
Time																																																																				21
Training																																																																				20
Transformational																																																																				8
Value Creation																																																																				6
Workplace																																																																				22
SUM	50	40	9	3	45	28	10	41	37	35	32	7	37	6	6	4	41	36	6	29	3	9	27	15	11	38	39	40	23	9	11	30	41	45	33	36	7	41	34	30	40	11	19	25	33	7	39	22	43	22	39	30	22	7	29	8	23	7	30	32	30	30	9	36	28	44	13	42		1767

References Creativity:			
A - 1 Sung, Choi (2012)	A - 20 Gray, Parise, Lyar (2011)	A - 39 Ortiz, Benito, Galende (2009)	A - 58 Medina, Cabrales and Cabrera (2011)
A - 2 Rosa , Qualls, Fuentes (2008)	A - 21 Boeker, Kariachalil (2002)	A - 40 Ng, Anuar (2011)	A - 59 Gong, Cheung, Wang, Huang (2010)
A - 3 Leiponen, Helfat (2010)	A - 22 Martinez, Ortiz (2011)	A - 41 Yeh, Yeh, Chen (2012)	A - 60 Calantone, Cavusgil, Zhao (2001)
A - 4 Jeff Kehoe (2010)	A - 23 Zhu, Zhang (2011)	A - 42 Soderlund (2009)	A - 61 Unger, Gemünden, Aubry (2012)
A - 5 Phipps, Prieto (2012)	A - 24 Chen (2007)	A - 43 Lee, den Steen (2007)	A - 62 Han, Chiang, Chang (2010)
A - 6 Dul, Jaspers (2011)	A - 25 Castiaux, Paque (2009)	A - 44 Donaldson, Qiu, Luo (2013)	A - 63 Skok, Kalmanovitch (2005)
A - 7 Gebert, Boerner, Kearney (2010)	A - 26 Schmitt, Buisine, Chaboissier, Aoussat, Vernier (2012)	A - 45 Ojiako, Ashleigh, Chipulu, Maguire (2010)	A - 64 Liao, Chang, Hu, Yueh (2011)
A - 8 Argote and Spektor (2011)	A - 27 Majchrzak, Cooper, Neece (2004)	A - 46 Wood, Menezes (2011)	A - 65 Yang (2011)
A - 9 Litchfield, Gilson (2013)	A - 28 Coelho, Augusto, Lages (2011)	A - 47 Montag, Maertz Jr., Baer (2005)	A - 66 Shen, D'Netto, Tang (2010)
A - 10 Song, Teng, Nerur (2007)	A - 29 Howard, Culley, Dekoninck (2010)	A - 48 Dul, Ceylan (2011)	A - 67 Dillielo, Houghton, Dawley (2011)
A - 11 van Burg, Podoynitsyna, Beck, Lommelen (2012)	A - 30 Perry, Wilhelm (2010)	A - 49 Lee, Lee (2010)	A - 68 Lin, Huang (2010)
A - 12 Matusik, Heeley (2005)	A - 31 Tian, Nakamori (2011)	A - 50 Choo, Schroder, Linderman (2007)	A - 69 Berman, Kim (2010)
A - 13 Marsh, Stock (2006)	A - 32 Stocker, Granitzer, Hoefler, Pammer, Willfort, Koeck, Tochtermann (2008)	A - 51 Lee, Choi (2003)	
A - 14 Quevedo, Verdu, Soriano, Ribeiro (2011)	A - 33 Andersen, Kragh (2012)	A - 52 Teerajetgul, Chareonngam, Wethyavivorn (2009)	
A - 15 Gray (2003)	A - 34 Jiang, Wang, Zhao (2012)	A - 53 Johnston, Paladino (2007)	
A - 16 Marc Abrahams (2009)	A - 35 London, Siva (2011)	A - 54 Martins, Shalley (2011)	
A - 17 DeFillipini, Grabher, Jones (2007)	A - 36 Balogun and Jenkins (2003)	A - 55 Chapin (2010)	
A - 18 Cappellin (2007)	A - 37 Fee, Gray (2003)	A - 56 Loke, Downe, Sambasivan, Khalid (2012)	
A - 19 Fliaster, Schloderer (2010)	A - 38 Huang, Tansley (2012)	A - 57 Somech, Zahavy (2005)	

Table 19

Table 19- Creativity KM Practices in the Literature; Source: elaborated by the author

References to KM Practices	SUM
Knowledge Aquisition	21
Knowledge Development	29
Knowledge Distribution	20
Knowledge Utilization	29
Knowledge Retention	6
SUM	105

Table 20

Table 20 – Recruitment Literature Attributes; Source: Elaborated by the Author

References Atributes Recruitment Program	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12	A13	A14	A15	A16	A17	A18	A19	A20	A21	A22	A23	A24	A25	A26	A27	A28	A29	A30	A31	A32	A33	A34	A35	A36	A37	A38	A39	A40	A41	A42	A43	A44	A45	A46	A47	A48	A49	A50	A51	A52	A53	A54	A55	A56	A57	A58	A59	A60	A61	A62	A63	A64	A65	A66	A67	A68	A69	A70	A71	A72	A73	A74	A75	A76	A77	A78	A79	A80	A81	A82	A83	A84	A85	A86	A87	A88	SUM
Academic																			1					1	1					1		1														1										1			1			1					1				1					1			1	1	1						1			16
Activities			1	1	1	1			1		1				1	1	1	1		1		1		1	1				1		1		1							1			1		1		1	1		1			1	1	1			1	1					1												1				1					1		1	33
Administrative Efficiency			1						1										1	1	1						1	1								1			1														1		1	1	1						1		1											1										1				17
Adverteisements	1							1																							1						1						1			1		1											1																					1											9
Agencies	1	1					1			1		1																			1	1							1					1				1	1		1									1			1	1																															15
Applicants	1		1										1																							1										1							1					1			1	1												1				1													11
Assess	1						1					1		1							1						1			1					1	1			1				1											1				1				1											1			1			1			1					1	19
Attitude											1	1	1																	1										1						1				1										1													1											1						10
Attraction								1			1		1																							1										1	1									1	1				1		1								1																		11
Barriers	1										1	1			1				1	1			1													1										1	1		1												1					1				1						1					1								16
Behavior			1			1							1															1								1		1		1		1	1													1		1			1																			1	1									1	1			16
Campaign								1	1																		1			1																															1		1																	1											7
Candidates	1				1										1				1		1			1			1			1						1		1								1										1	1	1						1	1														1		1											18
Capabilities	1			1						1			1						1			1		1							1							1			1															1			1	1		1			1			1		1	1	1			1	1								1				1	23
Channels									1	1															1						1						1		1																																						1			1											8
Commitment	1	1			1		1		1	1		1			1						1	1		1					1	1		1								1	1	1	1				1			1				1	1		1		1		1	1									1			1		1		1	1	1			1			1	1	1	1	36
Competencies	1											1				1		1										1																		1							1						1		1			1		1			1		1			1								1				15
Competent					1																	1		1														1				1		1					1					1	1		1		1		1	1	1													1							1				1			17
Consultants	1							1					1														1											1									1	1	1				1			1														1					1											1			13
Contractors									|1|																					|1|	|1|					|1|			|1|																																													|5
Costs		1	1		1	1	1		1	1	1													1									1				1	1	1													1				1						1			1										1		1	1					1						1	22
Diversity	1	1	1		1		1					1	1			1					1		1		1											1								1	1	1											1		1							1							1		1	1											1			22
E-Recruitment														1				1					1			1								1	1						1		1						1														1																												10
Expatriate			1												1									1														1		1	1				1		1									1																				1															10
Experience	1				1								1		1	1		1	1			1	1	1					1		1			1						1	1					1								1				1			1	1		1				1						1											1						24
Experts											1		1								1				1	1								1			1																	1					1									1	1		1										1				1					14
External Recruitment	1						1						1											1				1	1			1						1	1																												1		1						1	1					1								14
Foreign																								1						1			1								1																																															1	5
Graduates																			1				1							1	1														1																															1		1		1											8
Implementing				1	1				1				1			1											1									1					1		1	1		1										1			1		1		1	1						1					1											1				1	20
Incentives										1				1				1							1		1	1													1								1			1	1											1			1					1															1			14
Informal			1												1				1										1									1										1								1			1				1											1								1	1				12
Instruments												1					1														1																										1					1																					1							6
Intellectual Capital				1					1	1		1	1	1					1	1		1	1								1																												1						1					1	1								1							1				17
Internal	1															1								1						1																							1																					1			1										1					8
Internships																																						1																		1										1			1							1		1											6
Job Descriptions	1		1																																																	1						1					1													1								1				1	8
Knowledge Acquisition										1			1															1		1						1	1																1												1						1					1														10
Mechanisms				1			1			1					1						1																			1	1			1							1												1								1		1						1											13
Mentoring					1										1						1															1			1							1		1									1	1																																		9
Methods						1										1	1				1								1						1						1					1						1									1							1		1					1					1				1			1		16
Minority	1																								1										1	1					1	1					1										1					1			1																										10
Mobility		1	1							1					1				1				1	1						1			1						1		1						1					1																1	1														1		1			17
Occupations	1														1															1			1									1				1												1				1					1																			1			10
On-line																1		1			1			1	1				1		1							1			1							1														1	1					1										1		1											15
Organizational Culture			1	1	1		1		1					1	1						1	1		1				1			1				1	1		1		1															1			1			1							1				1			1	1		1							1				25
Outsourcing							1			1						1			1											1			1																													1			1					1					1												1			11
Phases		1															1																				1		1														1					1																	1			1													8
Policy		1			1				1			1										1								1						1	1			1	1			1								1	1				1	1				1	1											1										1				1	20
Pontential		1						1		1	1		1		1			1											1	1									1																																	1									1						1				13
Pool					1								1									1		1						1	1															1											1	1				1										1	1					1				1									14
Position										1						1					1	1		1	1	1																		1								1		1							1	1																														12
Professional and Personal Networks		1								1														1						1	1																			1								1			1				1						1					1															11
Profile Candidate	1	1									1																															1				1													1			1																													7
Profile Position																	1							1					1								1					1															1										1																	1				8
Protocol		1							1		1																							1																							1	1				1																												7
Qualifications		1					1								1	1			1			1								1		1							1								1				1			1			1	1				1	1							1					1	1						1		1					21
Retention	1				1								1	1					1		1									1	1					1														1		1	1			1				1	1	1		1		1			1																		1		1	21
Selection (External)							1						1	1		1			1	1		1		1				1	1				1						1		1									1						1							1					1							1	1	1				1				1			1	23
Selection (Internal)														1		1			1									1	1	1	1																						1																				1						1		1			1				1	13
Senior							1		1	1				1	1																					1		1		1															1											1			1								1							1				13
Skills (Hard)		1		1			1			1		1					1		1			1	1	1					1	1	1	1	1								1					1	1			1		1	1			1	1		1	1	1		1		1	1			1		1		1			1							1	1		1			36
Skills (Soft)			1																											1								1								1										1	1						1						1																						8
Staffing				1								1			1						1	1	1	1				1			1		1			1			1													1	1			1			1	1	1				1	1			1	1		1	1					1									1		1	1		28
Stakeholders							1	1		1									1	1						1			1											1								1																1	1		1							1		1			1										1	16
Stategies					1				1		1							1		1	1		1	1						1	1							1								1				1		1	1				1		1			1					1		1								1													21
Suppliers										1																			1						1											1																			1						1																			6
Talent					1																			1	1					1	1															1												1		1							1									1													10
Teams														1		1																		1	1																		1							1										1		1																1	9
Temporary													1						1											1			1																			1				1							1																								1	8
Turnover	1																				1			1							1											1				1							1								1								1																						9
Volunteer																		1					1		1																	1								1																			1																					6
SUM	20	13	12	8	15	4	14	6	13	19	10	12	18	10	16	14	6	9	18	7	16	14	11	25	11	4	7	10	13	27	20	4	12	5	6	18	7	14	14	12	16	8	10	4	6	18	14	9	5	11	1	11	18	9	6	19	10	21	16	10	20	15	16	14	13	5	10	11	7	17	9	8	9	5	14	17	18	6	14	4	6	5	4	13	11	14	3	15	101

References Recruit:				
A 1 Almeida, Fernando and Sheridan (2012)	A 20 Morgan, Barry, Donovan, Sandall, Wolfe, Boaz (2011)	A 39 Akuratiyagamage (2007)	A 58 Van den Brink (2011)	A 77 Li, Quian, Liao,Chu(2008)
A 2 Zabalza, Matey (2011)	A 21 Gomez, Travis, Lopez, Schwab (2010)	A 40 Jabbour and Santos (2008)	A 59 Colucci, Tinelli,Di Sciascio,Donini (2011)	A 78 Globerman, White,Mcdonald (2002)
A 3 Sartorius, Merino, Carmichael (2011)	A 22 Taylor, Levy, Boyacigiller, Beechler 2008	A 41 Sippola, Smale (2007)	A 60 Vidal, Hurtado, Matías (2012)	A 79 Costea, Amiridis, Crump (2012)
A 4 Baugh, Neupert, Anh, Hang (2011)	A 23 Singh, Han (2010)	A 42 Cravey,Washburn, Gesler, Arcury, Skelly (2001)	A 61 Ng and Burke (2005)	A 80 Shea (1999)
A 5 Herrera, Duncan, Green, Ree; Skaggs (2011)	A 24 Andresen and Biemann (2012)	A 43 Hsu, Sakai (2009)	A 62 Billett, Dymock, Johnson,Martin (2011)	A 81 Rivard, Russell, Roxborough, Ketelaar, Bartlett, Rosenbaur
A 6 Williams (2011)	A 25 Hoffman, Pippert (2009)	A 44 Ditewig, Blok ,Havers, van Veenendaal (2010)	A 63 Cooke (2011)	A 82 Bozzette, Posner (2013)
A 7 Bach, Bordogna (2011)	A 26 Peirson, Ciliska, Dobbins and Mowat (2012)	A 45 Ledwith, Seymour (2001)	A 64 Merry, Gagnon, Thomas (2010)	A 83 Farnesi, Newton, Holt, Sharma, Ball (2012)
A 8 Meliadou, Santoro, Nader, Dagher, Al Indary, Salloum 2012	A 27 Arrowsmith, Nicholaisen, Bechter, Nonell (2007)	A 46 Soltani (2010)	A 65 Currie (2003)	A 84 Fenwick (2005)
A 9 Stanton, Young, Bartram, Leggat 2010	A 28 Jimenez, Valle (2008)	A 47 Clegg, Gray (2002)	A 66 Young, Moule, Evans, Simmons, Crack, Mayo (2012)	A 85 Rao (2007)
A 10 Zhou, Liu, Hong (2012)	A 29 McHugh, Hogan (2011)	A 48 Tonn, Hawkings, Schweitzer, Eisenberg (2013)	A 67 Gendron (2011)	A 86 Guchait, Cho (2010)
A 11 Packer, Boldy, Ghahari, Melling, Parsons, Osborne 2012	A 30 Moriarty, Wickham, Krings, Salamonska and Bobek (2012)	A 49 Gately, Rogers and Sanders (2007)	A 68 Pan, Wang (2010)	A 87 Bryson (2013)
A 12 Liang, Xie, Cui 2010	A 31 Haesi, Boxall (2005)	A 50 Standing, Chowdhury (2008)	A 69 Waikayi, Fearon, Morris, McLaughlin (2012)	A 88 Collings, Dick (2011)
A 13 De Winne, Sels (2010)	A 32 Sayım (2010)	A 51 Jackson, Schuler (1999)	A 70 Söderquist (2006)	
A 14 Kothari, Wathen (2013)	A 33 Macvaugh, Evans (2012)	A 52 Liu, Marineau, Chen,Zhan and Tang (2006)	A 71 Zaho (2008)	
A 15 Hutchings, Metcalfe, Cooper (2010)	A 34 Schelfhaudt, Crittenden (2005)	A 53 Wood, Menezes (2008)	A 72 Thompson, Heron (2005)	
A 16 Aydinli 2010	A 35 Fields, Roman, Blum (2012)	A 54 Woloschuk, Raymond (2010)	A 73 Raeder, Knorr, Hilb (2012)	
A 17 Huang, Lin, Lin (2011)	A 36 Ng, Sears (2010)	A 55 Crawford, Nahmias (2010)	A 74 Davies (2011)	
A 18 Mitchell, Firswell, Mooren (2012)	A 37 Giesbrech,Crooks,Schuurman, Williams (2009)	A 56 Warner (2008)	A 75 Waiganjo, Mukulu, Kahiri (2012)	
A 19 Harney, Monks, Alexopoulos, Buckley, Hogan (2011)	A 38 Garcia (2010)	A 57 Ruhanen, Breakey, Robinson (2011)	A 76 Bossong (2012)	

Table 21

Table 21 - Recruitment KM Practices in the Literature; Source: elaborated by the author

References to KM Practices	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12	A13	A14	A15	A16	A17	A18	A19	A20	A21	A22	A23	A24	A25	A26	A27	A28	A29	A30	A31	A32	A33	A34	A35	A36	A37	A38	A39	A40	A41	A42	A43	A44	A45	A46	A47	A48	A49	A50	A51	A52	A53	A54	A55	A56	A57	A58	A59	A60	A61	A62	A63	A64	A65	A66	A67	A68	A69	A70	A71	A72	A73	A74	A75	A76	A77	A78	A79	A80	A81	A82	A83	A84	A85	A86	A87	A88	SUM
Knowledge Aquisition																																																																																								
Knowledge Development																																																																																							
Knowledge Distribution																																																																																							
Knowledge Utilization																																																																																						
Knowledge Retention																																																																																						
SUM																																																																																									

References Recruit:

A 1 Almeida, Fernando and Sheridan (2012)	A 20 Morgan, Barry, Donovan, Sandall, Wolfe, Boaz (2011)	A 39 Akuratiyagamage (2007)	A 58 Van den Brink (2011)	A 77 Li, Quian, Liao,Chu(2008)
A 2 Zabalza, Matey (2011)	A 21 Gomez, Travis, Lopez, Schwab (2011)	A 40 Jabbour and Santos (2008)	A 59 Colucci, Tinelli,Di Sciascio,Donini (2011)	A 78 Globerman, White,Mcdonald (2002)
A 3 Sartorius, Merino, Carmichael (2011)	A 21 Taylor, Levy, Boyacigiller, Beechler 2008	A 41 Sippola, Smale (2007)	A 60 Vidal, Hurtado, Matias (2012)	A 79 Costea, Amiridis, Crump (2012)
A 4 Baugh, Neupert, Anh, Hang (2011)	A 23 Singh, Han (2010)	A 42 Cravey,Washburn, Gesler, Arcury, Skelly (2001)	A 61 Ng and Burke (2005)	A 80 Shea (1999)
A 5 Herrera, Duncan, Green, Ree; Skaggs (2011)	A 24 Andresen and Biemann (2012)	A 43 Hsu, Sakai (2009)	A 62 Billett, Dymock, Johnson,Martin (2011)	A 81 Rivard, Russell, Roxborough, Ketelaar, Bartlett, Rosenbaum (2010)
A 6 Williams (2011)	A 25 Hoffman, Pippert (2009)	A 44 Ditewig, Blok ,Havers, van Veenendaal (2010)	A 63 Cooke (2011)	A 82 Bozzette, Posner (2013)
A 7 Bach, Bordogna (2011)	A 26 Peirson, Ciliska, Dobbins and Mowat (2012)	A 45 Ladwith, Seymour (2001)	A 64 Merry, Gagnon, Thomas (2010)	A 83 Farnesi, Newton, Holt, Sharma, Ball (2012)
A 8 Meliadou, Santoro, Nader, Dagher, Al Indary, Salloum 2012	A 27 Arrowsmith, Nicholaisen, Bechter, Nonell (2007)	A 46 Soltani (2010)	A 65 Currie (2003)	A 84 Fenwick (2005)
A 9 Stanton, Young, Bartram, Leggat 2010	A 28 Jimenez, Valle (2008)	A 47 Clegg, Gray (2002)	A 66 Young, Moule, Evans, Simmons, Crack, Mayo (2012)	A 85 Rao (2007)
A 10 Zhou, Liu, Hong (2012)	A 29 McHugh, Hogan (2011)	A 48 Tonn, Hawkings, Schweitzer, Eisenberg (2013)	A 67 Gendron (2011)	A 86 Gunhall, Cho (2010)
A 11 Packer, Boldy, Ghahan, Melling, Parsons, Osborne 2012	A 30 Moriarty, Wickham, Krings, Salamonska and Bobek (2012)	A 49 Gately, Rogers and Sanders (2007)	A 68 Pan, Wang (2010)	A 87 Bryson (2013)
A 12 Liang, Xie, Cui 2010	A 31 Haesi, Boxall (2005)	A 50 Standing, Chowdhury (2008)	A 69 Wlekayi, Fearon, Morris, McLaughlin (2012)	A 88 Collings, Dick (2011)
A 13 De Winne, Sels (2010)	A 32 Saym (2010)	A 51 Jackson, Schuler (1999)	A 70 Söderqvist (2006)	
A 14 Kothari, Wathen (2013)	A 33 Macvaugh, Evans (2012)	A 52 Liu, Marineau, Chen,Zhan and Tang (2006)	A 71 Zaho (2008)	
A 15 Hutchings, Metcalfe, Cooper (2010)	A 34 Schelfhaudt, Crittenden (2005)	A 53 Wood, Menezes (2008)	A 72 Thompson, Heron (2005)	
A 16 Aydinli 2010	A 35 Fields, Roman, Blum (2012)	A 54 Woloschuk, Raymond (2010)	A 73 Raeder, Knorr, Hilb (2012)	
A 17 Huang, Lin, Lin (2011)	A 36 Ng, Sears (2010)	A 55 Crawford, Nahmias (2010)	A 74 Davies (2011)	
A 18 Mitchell, Firswell, Mooren (2012)	A 37 Giesbrech,Crooks,Schuurman, Williams (2009)	A 56 Warner (2008)	A 75 Waiganjo, Mukulu, Kahiri (2012)	
A 19 Harney, Monks, Alexopoulos, Buckley, Hogan (2011)	A 38 Garcia (2010)	A 57 Ruhanen, Breakey, Robinson (2011)	A 76 Bossong (2012)	

Table 22

References Atributes Motivation	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12	A13	A14	A15	A16	A17	A18	A19	A20	A21	A22	A23	A24	A25	A26	A27	A28	A29	A30	A31	A32	A33	A34	A35	A36	A37	A38	A39	A40	A41	A42	A43	A44	A45	A46	A47	A48	A49	A50	A51	A52	A53	A54	SUM
Achievment																																																							19
Adapt to change																																																							13
Adopt (Technology)																																																							15
Attitude																																																							28
Autonomy																																																							15
Behavior Proactivity																																																							31
Capacity																																																							17
Career Development																																																							10
Climate																																																							21
Cognition																																																							10
Collaboration																																																							24
Commitment																																																							25
Compensation																																																							11
Competence																																																							19
Comply/Cooperate																																																							7
Context of the Organization																																																							18
Contributors																																																							8
Control Mechanisms																																																							15
Create Knowledge																																																							40
Effort in Goal Accomplishment																																																							15
Empowerment																																																							6
Engagement																																																							14
Expectancies																																																							5
Extrinsic																																																							16
Formal Communication																																																							11
Helping Behaviors																																																							13
Incentives																																																							23
Informal Communication																																																							9
Interpersonal Exchange																																																							12
Intrinsic																																																							16
Job Design																																																							7
Job Satisfaction																																																							11
Job Security																																																							9
Knowledge Sharing																																																							29
Learning Environment																																																							37
OBC (Organizational Citizenship Behavior)																																																							9
Obligation																																																							9
Organizational Policies																																																							16
Organizational Values																																																							25
Performance Appraisal																																																							12
Persoal Growth																																																							9
Personality Traits																																																							6
Psychological Contract																																																							5
Recognition																																																							10
Relationship with Colleagues and Suppervisors																																																							12
Remuneration																																																							6
Rewards																																																							19
Self-Efficacy																																																							10
Supervisor Feedback																																																							8
Supervisor Support																																																							10
Work-Conditions																																																							7
SUM	34	13	11	18	32	15	15	19	6	15	15	9	14	13	12	30	14	26	15	18	6	8	7	8	11	8	17	19	10	7	10	26	18	14	9	21	14	15	23	7	5	22	14	1	17	14	20	6	7	8	7	10	11	8	752

Table 23

Table 23 - Motivation KM Practices in the Literature; Source: elaborated by the author

References to KM Practices	A 1	A 2	A 3	A 4	A 5	A 6	A 7	A 8	A 9	A 10	A 11	A 12	A 13	A 14	A 15	A 16	A 17	A 18	A 19	A 20	A 21	A 22	A 23	A 24	A 25	A 26	A 27	A 28	A 29	A 30	A 31	A 32	A 33	A 34	A 35	A 36	A 37	A 38	A 39	A 40	A 41	A 42	A 43	A 44	A 45	A 46	A 47	A 48	A 49	A 50	A 51	A 52	A 53	A 54	SUM
Knowledge Aquisition		1		1			1	1				1													1				1	1														1	1	1		1	1	1					14
Knowledge Development										1						1							1	1							1						1			1				1	1	1									10
Knowledge Distribution				1	1	1					1		1				1	1			1	1		1	1	1	1			1	1		1	1	1			1	1	1				1		1	1	1	1	1	1	1	1	1	31
Knowledge Utilization														1	1	1	1	1	1		1					1		1		1	1	1	1									1	1										1		16
Knowledge Retention	1		1						1						1		1	1		1	1										1		1			1					1					1	1								14
SUM	1	1	1	2	1	1	1	1	1	1	1	1	1	1	2	2	3	3	1	1	3	1	1	2	2	2	1	1	1	3	4	1	3	1	1	1	1	1	1	2	1	1	1	3	2	4	2	2	2	2	1	1	2	1	85

References Motivation:		
A 1 Kuvaas, Buch, Dysvik (2012)	A 20 Paswan, Wittmann (2009)	A 39 Lee, Jang (2010)
A 2 Gray, Meister (2004)	A 21 Garfinkel, Hankins (2010)	A 40 Liaw, Chen, Huang (2008)
A 3 Sitzzmann (2011)	A 22 Choudhary, Harding, Lin, Tiwari, Shankar (2011)	A 41 Pierce, Aguinis (2013)
A 4 Singh, Winkel (2012)	A 23 Seba, Rowley,Lambert (2012)	A 42 Toode, Routasalo, Pirkko, Suominen (2011)
A 5 Gagné (2009)	A 24 Matzler, Muller (2008)	A 43 Cao, Xiang (2013)
A 6 Khoja (2010)	A 25 Ming Li, Jhang Li (2010)	A 44 Ferlie, Crilly, Jashapara, Peckham (2012)
A 7 McKenzie, Truc, Winkelen (2010)	A 26 Sekiguchi, Bebenroth, Li (2011)	A 45 Allen,Hyde and Leslie (2012)
A 8 Williams, Rayner, Allinson (2011)	A 27 Xiao-Quing, Nan (2010)	A 46 Schoor,Bannert (2011)
A 9 Shang , Li, Wu, Hou (2011)	A 28 Minbaeva, Makela, Rabbiosi (2012)	A 47 Chang, Yen, Chiang, Parolia (2013)
A 10 Melnik,Petrella, Battesti (2012)	A 29 Argote, McEvily, Reagens (2003)	A 48 Baughn, Neupert, Anh, Hang (2011)
A 11 Shih, Chiang, Chen (2012)	A 30 Bakker, Cambré, Korlaar and Raab (2011)	A 49 Liawa, Chen, Huang (2008)
A 12 Chu, Chuang (2012)	A 31 Hiscock (2004)	A 50 Esterhuizena, Schuttea, du Toit (2012)
A 13 Martin, Sass (2011)	A 32 Chen, Hung (2010)	A 51 Malhotra, Galleta (2003)
A 14 Whan (2011)	A 33 Hau, Kim (2011)	A 52 Park, Rainey (2012)
A 15 Bloom, Wolcott (2012)	A 34 Liu, Fang (2010)	A 53 - Li, Li (2010)
A 16 Hansen and Alewell (2012)	A 35 Lin, Harding, Tsai, Taylor (2011)	A 54 - Shu, Chuang (2011)
A 17 Kane (2010)	A 36 Razee, Whittake, Jayasuriya, Yap, Brentnall (2012)	
A 18 Wang, Tseng, Yen (2012)	A 37 Yamamoto (2011)	
A 19 Chen, Shih, Yeh (2011)	A 38 Schaaper, Amann, Jaussaud, Nakamura, Mizoguchi (2012)	

Table 24

Table 24 – New Ideas Generation Literature Attributes; Source: Elaborated by the Author

The full matrix lists References Attributes (rows) against references A1–A69 (columns), with individual cell marks. The reliably legible data — the attribute names and their row SUM totals, plus the per-column SUM row — are reproduced below.

References Attributes	SUM
Absorptive Capacity	17
Adapt to Market Demands	9
Adoption of New Ideas	46
Advice	15
Autonomy	13
Benchmarking	13
Brainstorming	7
Change Management	14
Circulation of Ideas	15
Clusters of Ideas	12
Cognitive Characteristics	8
Collaboration between Organizations	22
Collaboration between Team Members	15
Collection of Ideas	9
Combination of Ideas and Recombination	23
Communicate Clearly an Idea	22
Communication Channels Efficacy	15
Communities of Practice	10
Competence Acquisition	10
Competing (Internal)	9
Concept Development	15
Context Specific Factors from the Firm	21
Conversion of Knowledge from Tacit to Explicit and Explicit to Tacit	23
Convey Complex Ideas	6
Core Competence Strenghtning	8
Creative problem-solving/techniques	15
Customer Capital	16
Disseminate Knowledge Troughout the Company	15
Dynamic Capabilities	14
Encountering New Situations	12
Entrepreneurship	21
Environment Uncertainty	15
Exchange Experiences	23
Experimentation Fostering	8
Explicit Knowledge Conversion	17
Exploitation	24
Exploration	29
Externalization	7
Flexibility of Processes	26
Idea Economic Value	29
Idea Portfolio	12
Idea/Knowledge Repository	14
Improve Structures and Systems	18
Informal Communication	13
Innovation Capability	13
Innovation Policy	19
Innovation Strategy	25
Intangible Assets	20
Integrate Expertise and Knowledge	25
Interdisciplinarity	13
Internalization	11
Joint Ventures	11
Knowledge Conversion	6
Knowledge Re-Utilization/Re-Use	11
Knowledge Tools	29
Knowledge Utilization Capacity	14
Lessons Learned	17
Market Orientation	11
Market Trends	16
Multiple Sources	9
Networking	17
New Product Development	20
New Projects	11
Non-Linear Thinking	4
NPD (New Product Development) Teams	17
Open Nature of the Systems	13
Partnerships and Alliances	29
Patentation	16
Physical Infrastructure	11
Presentations to Colleagues	5
Product Innovation Capability	20
Professional Development	13
R&D	21
Receptiveness to New Ideas	6
Record Good Ideas	9
Relational Skills	13
Risk Taking	25
Service and Product Improvement	29
Service Innovation Capability	11
Shared Decision Making	12
Shorten New Product Time Cycle Production	24
Single Loop and Double Loop Learning	11
Social Capital	18
Socialization	13
Stakeholder Involvement	12
Success Formulas/Recepies	7
Sustainable Competitive Advantage	21
Tacit Conversion	5
Team Diversity	6
Team Shared Mindset/Values	16
Translate Knowledge	15
Uniqueness of Factors Combination in the Organization	14
Workshops	8
SUM (total)	**1427**

Per-column SUM (A1–A69): 17, 18, 24, 34, 42, 13, 16, 18, 42, 22, 1, 33, 23, 21, 16, 19, 10, 49, 15, 18, 4, 31, 36, 14, 16, 15, 35, 18, 14, 25, 24, 18, 16, 36, 34, 20, 22, 32, 6, 21, 19, 12, 11, 13, 22, 21, 26, 16, 19, 15, 20, 15, 42, 14, 11, 10, 14, 13, 14, 11, 29, 17, 14, 33, 31, 22, 16, 26, 13 — Total: 1427

References New Ideias Generation:			
A 1 Zhao (2010)	A 20 Jabbour, Santos, Nagano (2010)	A 39 Reich, Gemino, Sauer (2012)	A 58 Spilg, Siebert, Martin (2012)
A 2 Varman, Chakrabarti (2011)	A 21 Garavan (2012)	A 40 Adomßent (2012)	A 59 Yakhlef (2010)
A 3 Phelps, Heidl, Wadhwa (2011)	A 22 Reichard, Johnson (2011)	A 41 Aschehoug, Boks, Støren (2012)	A 60 Aelterman, Vansteenkiste, Keer, Meyer, Berghe, Haerens (2010)
A 4 Chau, Moghimi, Popovic (2013)	A 23 Huber (2013)	A 42 Taylor, Yates, Meyer, Kinsella (2011)	A 61 Weidenfeld, Williams, Butler (2013)
A 5 Paraskevas, Altinay, McLean, Cooper (2013)	A 24 Hellmann, Perotti (2004)	A 43 Kim, Zheng, Gupta (2011)	A 62 Kamoche, Chizema, Mellahi, Kahindi (2012)
A 6 Allen, Gunderson (2011)	A 25 Gaillard, Mercer (2012)	A 44 Noroozi, Weinberger, Biemans, Mulder, Chizari (2013)	A 63 Peer, Stoeglehner (2013)
A 7 Skuza, Scullion, McDonnell (2012)	A 26 Wang, Jha, Gong, Hou, Chiu (2009)	A 45 Mader (2012)	A 64 Navarro, Dewhurst, Eldrige (2010)
A 8 Verma, Mishra, Sinha (2011)	A 27 Wright, Sturdy, Wylie (2012)	A 46 Barczak, Kahn (2012)	A 65 Sluyts, Matthyssens, Martens, Streukens (2011)
A 9 Hirunyawipada, Beyerlein, Blankson (2010)	A 28 Schwilch, Bachmann, Valente, Coelho, Moreira, Laouina, Chaker, Aderghal, Santos, Reed (2012)	A 47 Malik, Sinha, Blumenfeld (2012)	A 66 Iles, Chuai, Preece (2010)
A 10 Molineux (2012)	A 29 Brattström, Löfsten, Richtnér (2012)	A 48 Durmuşoğlu, Barczak (2011)	A 67 Zhang, Zhou (2013)
A 11 Muñoz, Muñoz (2006)	A 30 Pérez, Diáz (2010)	A 49 Linderman, Schroeder, Zaheer, Liedtke, Choo (2004)	A 68 Sher, Lee (2004)
A 12 Johannessen, Olsen, Olaisen (1999)	A 31 Davies, White (2012)	A 50 Raymond, Fazey, Reed, Stringer, Robinson, Evely (2010)	A 69 Boehm, Hogan (2013)
A 13 Chen, Chen (2010)	A 32 Lamb, Sutherland (2010)	A 51 Seyfang, Longhurst (2013)	
A 14 Cooke, Macau, Wood Jr. (2012)	A 33 Uhlaner, Braun, Jeurissen, Wit (2012)	A 52 Campos, Norman, Jadad (2011)	
A 15 Wang, Chu (2010)	A 34 Hoegl, Schulze (2005)	A 53 Anand, Ward, Tatikonda (2010)	
A 16 Land, Engelen, Brettel (2012)	A 35 Kim, Kumar, Kumar (2012)	A 54 Naudé (2011)	
A 17 Berta, Teare, Gilbart, Ginsburg, Charles, Davis, Rappolt (2010)	A 36 Fagerberg, Landström, Martin (2012)	A 55 Asquin, Garel, Picq (2010)	
A 18 Yang (2005)	A 37 Haugland, Grønseth, Aarstad (2010)	A 56 Avlonitis, Panagopoulos (2010)	
A 19 Chang, Tzeng (2010)	A 38 Hogan, Soutar, Kennedy, Sweeney (2011)	A 57 Kornish, Ulrich (2011)	

Table 25

Table 25 – New Ideas Generation KM Practices in the Literature; Source: elaborated by the author

References to KM Practices	SUM
Knowledge Aquisition	7
Knowledge Development	44
Knowledge Distribution	38
Knowledge Utilization	33
Knowledge Retention	7
SUM	129

(The matrix columns A 1 – A 69 record individual "1" entries per reference for each KM practice row; row totals and the overall total of 129 are shown in the SUM column/row above.)

Table 26

Table 26 - Source: – Employee Competence Literature Attributes; Source: Elaborated by the Author

References to Level of Employees´ Competence	SUM
Accumulate Knowledge	17
Achievement Orientation	13
Activity Performace	25
Administrative Efficiency	14
Awareness of Innovation	18
Based Performance Incentives	13
Building Competencies	22
Classification of Competences	14
Close Knowledge Gap	21
Collective Skills	23
Combination (IT and Abilities)	15
Combination of Individual/Group Competences	8
Competence Acquisition	22
Competence Experience	29
Competence Gaps	9
Competence Integration	15
Competence Management	11
Competence Measurement	17
Competence Gain	6
Competence Profiles	5
Competence Scarcity/Shortage	8
Competence Transfer	36
Competitive Advantage	34
Complexity of Competence	13
Coordination Capability	17
Core Capability	20
Core Competence	33
Create New Competences	18
Critical Competence	16
Customer Knowledge Competence	11
Customer Satisfaction	9
Decision-Making Competence	25
Developing Competences	14
Diagnose Competence/Mapping	9
Distinctive Competencies	6
Dynamic (Knowledge System)	15
Embodied Competences	4
Employee Competences	17
Employees Attitudes	15
Encourage Inter-firm Knowledge Share	9
Enhance Competence	20
Evaluate Competence	8
External Competence	35
Firm Capability	16
Firm-Specific Comepetence	22
Group Competences/Skills	18
Hard Immitation/Inimitability	9
High-Performance	5
Innovation Capability	9
Integrate Capabilities	18
Internal Competence	17
Interpersonal/relational Competence	6
Learning New Competences	19
Managerial Competence	7
Market Knowledge Competence	13
Merit	6
Pay for Performance	12
Peer Support/Appraisal	7
Performance Antecedents	23
Performance Appraisals	6
Performance Driven Strategy	6
Performance Management	10
Performance Measurement	10
Problem Solving Competence	16
Project Management Competence	15
Reconfigure/Renew Competences	7
Relationship Marketing Competence	4
Response Capability	9
Retain Competence	3
Skill Assessment	25
Skill Market Value	13
Skill Utilization	17
Specialised/Specific Competence	10
Strategic Comeptence	20
Supply Chain Management Competence	11
Technical Competence	13
Training Competence	26
Transferable Competence/Knowledge Transfer	14
Work Experience	13
SUM	**1164**

Column headers (A1–A55) SUM row values: 28, 20, 11, 18, 27, 34, 34, 36, 27, 24, 36, 6, 16, 4, 21, 14, 7, 25, 3, 5, 21, 34, 23, 17, 4, 23, 34, 19, 29, 8, 20, 22, 17, 43, 35, 16, 5, 14, 17, 24, 22, 30, 18, 35, 26, 29, 9, 20, 26, 44, 26, 24, 13, 17, 4.

Table 27

Table 27 – Employee Competence KM Practices in the Literature; Source: elaborated by the author

References to KM Practices	A 1	A 2	A 3	A 4	A 5	A 6	A 7	A 8	A 9	A 10	A 11	A 12	A 13	A 14	A 15	A 16	A 17	A 18	A 19	A 20	A 21	A 22	A 23	A 24	A 25	A 26	A 27	A 28	A 29	A 30	A 31	A 32	A 33	A 34	A 35	A 36	A 37	A 38	A 39	A 40	A 41	A 42	A 43	A 44	A 45	A 46	A 47	A 48	A 49	A 50	A 51	A 52	A 53	A 54	A 55	SUM
Knowledge Aquisition	1		1									1						1			1	1					1								1											1	1									10
Knowledge Development	1	1	1	1	1	1	1		1	1		1	1		1	1	1	1	1		1	1	1	1		1	1	1		1	1	1	1	1		1	1		1	1	1	1		1	1	1	1	1	1	1	1	1	1		1	45
Knowledge Distribution	1					1			1	1		1			1				1	1	1			1		1	1	1			1	1			1	1			1	1		1	1			1			1				1	1	25
Knowledge Utilization	1	1		1	1	1	1	1	1		1	1	1	1		1		1	1		1	1	1		1		1		1		1		1	1		1	1	1	1		1	1	1		1	1	1		1	1	1	1		1	37
Knowledge Retention	1	1		1					1					1	1	1			1			1		1	1	1			1		1					1										1		1	1	1	1	16
SUM	5	3	1	3	2	3	1	3	2	2	3	2	3	1	2	3	2	2	2	1	4	4	1	1	3	2	3	3	3	2	2	2	2	3	1	2	2	3	2	3	2	2	2	3	2	1	5	4	3	2	3	3	133

References Level of Employee Competence:		
A 1 Sedera and Gable (2010)	A 20 Havila, Medlin (2012)	A 39 Arnett, Badrinarayanan (2005)
A 2 Jia (2010)	A 21 Tissen, Deprez, Burgers, Montfort (2010)	A 40 Biron, Farndale, Paauwe (2011)
A 3 Sordi, Azevedo (2008)	A 22 König, Diehl, Tscherning and Helming (2013)	A 41 Pillai, Min (2010)
A 4 Ling (2011)	A 23 Hao-yu, Yun, Yun-feng and Xing, Bei (2010)	A 42 Bhamra, Dani, Bhamra (2010)
A 5 Hertlein, Smolnik (2012)	A 24 Holoien, Fiske (2013)	A 43 FitzPatrick, Davey, Muller, Davey (2013)
A 6 Yang (2010)	A 25 Powell, Swart (2010)	A 44 Massingham (2010)
A 7 Cepeda, Vera (2007)	A 26 Khatri, Baveja, Agrawal, Brown (2010)	A 45 Mengue, Auh, Uslu (2013)
A 8 Jolink, Dankbaar (2010)	A 27 Xiang, Xu (2009)	A 46 Sung, Choi (2012)
A 9 Petroni, Venturini, Verbano (2011)	A 28 Kylaheiko, Jantunen, Puumalainen, Luukka (2011)	A 47 Crawford (2005)
A 10 Campbell (2003)	A 29 Yu, Yan-fei, Hai-Lin	A 48 Henriksen, Rolstadås (2009)
A 11 Liu, Liu (2011)	A 30 Kamoche, Kahindi (2012)	A 49 Barnes, Liao (2012)
A 12 Hsu, Tan, Laosirihongthong, Leong (2011)	A 31 Schwaer, Biemann, Voelpel (2012)	A 50 Camisón, Forés (2010)
A 13 Gardner, Pransky, Shaw, Hong, Loisels (2010)	A 32 Bellmunt, Fernandez, Vicedo (2011)	A 51 Hwang, Ng (2013)
A 14 Yongquan, Chunhua (2010)	A 33 Taylor, Cheng, Tsai (2011)	A 52 Lakanmaa, Suominen, Perttilä, Puukka, Kilpi (2012)
A 15 Rossem, Veen (2011)	A 34 Formentini, Romano (2011)	A 53 Lee, Lee, Kang (2005)
A 16 Pastor, Santana, Sierra (2010)	A 35 Chen, Wang, Ye (2010)	A 54 Lee, Tsai, Amjadi (2011)
A 17 Chen, Huang (2007)	A 36 Peñalvo, Palacios, Lytras (2012)	A 55 Prieto, Pérez, Sierra (2010)
A 18 Henriksen (2001)	A 37 Paraskevas, Altinay (2013)	
A 19 Humaidi, Anuar, Said (2010)	A 38 Marques, Gourc, Lauras (2010)	

Table 28

Table – 28: The main Leadership Theories according to relational and task focus

Source: Table 1; Sources of Leadership in Teams; Morgeson *et al.* 2009, p.9

Table 29

Table – 29: The main Types of Knowledge in Organizations

Types of knowledge	Learning by	What is learned How	How to share it	Media
Systemic Knowledge	Studying patterns	New ways of thinking about (facts)	Computer-simulation, scenario-planning, etc.	Systemic Tools
Explicit Knowledge	Listening/reading	Know What	Communication	Books, lectures, electronic media, etc
Tacit Knowledge	Using/doing/experimenting	Know how	"Brainstorming camps"	Practical experience, Apprenticeship-relationship
Hidden Knowledge	Socialization	Knowing how we know	Focus Groups	Questioning underlying assumptions and mental models
Relationship Knowledge	Interacting	Know Who	Partnership and Teamwork	Social Settings

Source: "Figure 3. Information and knowledge management" - Adapted from Johannessen Olsen and Olaisen (1999); p.131

Table 30

Leadership Literature Attributes; Source: Elaborated by the Author
Attentive to Followers Needs
Awareness
Charismatic
Clarity
Commitment
Communicative
Confidence
Conscientiousness
Control
Convey Positivity
Cooperation
Coordinator
Courageous
Creative
Decision Maker
Provides Development
Efficient
Emotional Intelligent
Empowering
Encourage Followers
Ethical
Experienced
Expert
Facilitator
Fair
Provides Feedback
Formal Leadership
Fosters Individualized Consideration
Fosters Intellectual Stimulation
Fosters Psychological Commitment
Fosters Human Values
Ideas Provider
Influential
Informal Leadership
Initiative
Inspirational
Intelligent
Maintains Relationships
Managing Employees
Mitigate Challenges
Mobilize Workers
Morally Disciplined
Morally Virtuous
Motivational
Orientation Provider
Fosters Performance
Provides Perspective
Enables Planning
Power to Mobilize Resources
Enables Problem Solving
Provides Self-Efficacy
Quality Supervisor
Responsible
Share Vision
Source of Knowledge
Strategic Thinking
Provides Support
Transactional
Transformational

Table 31

Selected Leadership Attributes; Source: Elaborated by the Author
Attentive to Followers Needs
Transactional
Charismatic
Coordinator
Formal Leadership
Transformational
Informal Leadership
Maintains Relationships
Motivational

Table 32

Creativity Literature Attributes; Source: Elaborated by the Author
Ability
Absorptive Capacity
Advantage
Atmosphere
Autonomy
Behavior
Brand
Capability
Change
Climate
Collective
Combination (Internal/External)
Competitive
Complex
Conflict
Construct
Conversion
Cooperation
Creation
Critical
Diversity
Dynamic
Engagement
Environment
Experience
Explicit
Exploration
Firm -Specific Routine
Generation
Group
Ideas
Implementation
Improvement
Individual
Initiative
Innovation
Interaction
Learn
New
Openess
Organizational
Performative
Personality
Practices
Problem Solving
Process
Product
Project
Recombination
Relational
Service
Shared Experiences
Skills
Social
Solution
Spontaneous
Tacit
Talent
Teaching
Team
Techniques
Thinking (styles/skills/original/new)
Time
Training
Transformational
Value Creation
Workplace

Table 33

Selected Creativity Attributes; Source: Elaborated by the Author
Workplace
Performative
Change
Advantage
Thinking (styles/skills/original/new)
Capability
Organizational
Interaction
Collective
New
Ideas
Innovation
Group
Diversity
Learn
Experience

Table 34

Recruitment Literature Attributes; Source: Elaborated by the Author
Academic
Activities
Administrative Efficiency
Adverteisements
Agencies
Applicants
Assess
Attitude
Attraction
Barriers
Behavior
Campaign
Candidates
Capabilities
Channels
Commitment
Competencies
Competent
Consultants
Contractors
Costs
Diversity
E-Recruitment
Expatriate
Experience
Experts
External Recruitment
Foreign
Graduates
Implementing
Incentives
Informal
Instruments
Intellectual Capital
Internal
Internships
Job Descriptions
Knowledge Acquisition
Mechanisms
Mentoring
Methods
Minority
Mobility
Occupations
On-line
Organizational Culture
Outsourcing
Phases
Policy
Pontential
Pool
Position
Professional and Personal Networks
Profile Candidate
Profile Position
Protocol
Qualifications
Retention
Selection (External)
Selection (Internal)
Senior
Skills (Hard)
Skills (Soft)
Staffing
Stakeholders
Stategies
Suppliers
Talent
Teams
Temporary
Turnover
Volunteer

Table 35

Selected Recruitment Attributes; Source: Elaborated by the Author
Diversity
Selection (External)
Qualifications
Activities
Experience
Commitment
Skills (Hard)
Retention
Costs
Organizational Culture

Table 36

Motivation Literature Attributes; Source: Elaborated by the Author
Achievment
Adapt to change
Adopt (Technology)
Attitude
Autonomy
Behavior Proactivity
Capacity
Career Development
Climate
Cognition
Collaboration
Commitment
Compensation
Competence
Comply/Cooperate
Context of the Organization
Contributors
Control Mechanisms
Create Knowledge
Effort in Goal Accomplishment
Empowerment
Engagement
Expectancies
Extrinsic
Formal Communication
Helping Behaviors
Incentives
Informal Communication
Interpersonal Exchange
Intrinsic
Job Design
Job Satisfaction
Job Security
Knowledge Sharing
Learning Environment
OBC (Organizational Citizenship Behavior)
Obligation
Organizational Policies
Organizational Values
Performance Appraisal
Persoal Growth
Personality Traits
Psychological Contract
Recognition
Relationship with Colleagues and Suppervisors
Remuneration
Rewards
Self-Efficacy
Supervisor Feedback
Supervisor Support
Work-Conditions

Table 37

Selected Motivation Attributes; Source: Elaborated by the Author
Attitude
Collaboration
Learning Environment
Incentives
Create Knowledge
Organizational Values
Knowledge Sharing

Table 38

New Ideas Generation Literature Attributes; Source: Elaborated by the Author
Absorptive Capacity
Adapt to Market Demands
Adoption of New Ideas
Advice
Autonomy
Benchmarking
Brainstorming
Change Management
Circulation of Ideas
Clusters of Ideas
Cognitive Characteristics
Collaboration between Organizations
Collaboration between Team Members
Collection of Ideas
Combination of Ideas and Recombination
Communicate Clearly an Idea
Communication Channels Efficacy
Communities of Practice
Competence Acquisition
Competing (Internal)
Concept Development
Context Specific Factors from the Firm
Conversion of Knowledge fromTacit to Explicit and Explicit to Tacit
Convey Complex Ideas
Core Competence Strenghtning
Creative problem-solving/techniques
Customer Capital
Disseminate Knowledge Troughout the Company
Dynamic Capabilities
Encountering New Situations
Entrepreneurship
Environment Uncertainty
Exchange Experiences
Experimentation Fostering
Explicit Knowledge Conversion
Exploitation
Exploration
Externalization
Flexibility of Processes
Idea Economic Value
Idea Portfolio
Idea/Knowledge Repository
Improve Structures and Systems
Informal Communication
Innovation Capability
Innovation Policy
Innovation Strategy
Intangible Assets
Integrate Expertise and Knowledge
Interdisciplinarity
Internalization
Joint Ventures
Knowledge Conversion
Knowledge Re-Utilization/Re-Use
Knowledge Tools
Knowledge Utilization Capacity
Lessons Learned
Market Orientation
Market Trends
Multiple Sources
Networking
New Product Development
New Projects
Non-Linear Thinking
NPD (New Product Development) Teams
Open Nature of the Systems
Partnerships and Alliances
Patentiation
Physical Infrasctructure
Presentations to Colleagues
Product Innovation Capability
Professional Development
R&D
Receptiveness to New Ideas
Record Good Ideas
Relational Skills
Risk Taking
Service and Product Improvement
Service Innovation Capability
Shared Decision Making
Shorten New Product Time Cycle Production
Single Loop and Double Loop Learning
Social Capital

Socialization
Stakeholder Involvement
Success Formulas/Recepies
Sustainable Competitive Advantage
Tacit Conversion
Team Diversity
Team Shared Mindset/Values
Translate Knowledge
Uniqueness of Factors Combination in the Organization
Workshops

Table 39

Selected New Ideas Generation Attributes; Source: Elaborated by the Author
Exploration
Combination of Ideas and Recombination
Collaboration between Organizations
Innovation Strategy
Exchange Experiences
Knowledge Tools
Adoption of New Ideas
Service and Product Improvement
Integrate Expertise and Knowledge

Table 40

Level of Employee Competence Literature Attributes; Source: Elaborated by the Author
Accumulate Knowledge
Achievement Orientation
Activity Performace
Administrative Efficiency
Awareness of Innovation
Based Performance Incentives
Building Competencies
Classification of Competences
Close Knowledge Gap
Collective Skills
Combination (IT and Abilities)
Combination of Individual/Group Competences
Competence Acquisition
Competence Experience
Competence Gaps
Competence Integration
Competence Management
Competence Measurement
Competence Gain
Competence Profiles
Competence Scarcity/Shortage
Competence Transfer
Competitive Advantage
Complexity of Competence
Coordination Capability
Core Capability
Core Competence
Create New Competences
Critical Competence
Customer Knowledge Competence
Customer Satisfaction
Decision-Making Competence
Developing Competences
Diagnose Competence/Mapping
Distinctive Competencies
Dynamic (Knowledge System)
Embodied Competences
Employee Competences
Employees Attitudes
Encourage Inter-firm Knowledge Share
Enhance Competence
Evaluate Competence
External Competence
Firm Capability
Firm-Specific Comepetence
Group Competences/Skills
Hard Immitation/Inimitability
High-Performance
Innovation Capability
Integrate Capabilities
Internal Competence
Interpersonal/relational Competence
Learning New Competences
Managerial Competence
Market Knowledge Competence
Merit

Pay for Performance
Peer Support/Appraisal
Performance Antecedents
Performance Appraisals
Performance Driven Strategy
Performance Management
Performance Measurement
Problem Solving Competence
Project Management Competence
Reconfigure/Renew Competences
Relationship Marketing Competence
Response Capability
Retain Competence
Skill Assessment
Skill Market Value
Skill Utilization
Specialised/Specific Competence
Strategic Comeptence
Supply Chain Management Competence
Technical Competence
Training Competence
Transferable Competence/Knowledge Transfer
Work Experience

Table 41

Selected Employee Competence Attributes; Source: Elaborated by the Author
Enhance Competence
Performance Antecedents
Close Knowledge Gap
Competence Acquisition
Activity Performace
Collective Skills
Decision-Making Competence
Firm-Specific Comepetence
Competence Transfer
Competence Experience

Table 42

Leadership Literature KM Practices; Source: Elaborated by the Author

Knowledge Acquisition
- Training
- Hire Externally
- Maintained Ongoing ties with Academia
- B2B Information Exchange
-Attend Lecture Series/Special Speaker Series
-Team Knowledge Elicitation
- Team Knowledge Assessment or Audit
- Selection Procedures
-Retrieve Knowledge from various sources interlocking it with data
- Strategic Alliances for Learning— developing forums with different groups/job rotation/ personnel transfers/ongoing training and development programs /sharing knowledge through written documents/joint ventures for knowledge acquisition purposes
-Work-Based Learning and Capability Development/Specialist Training

Knowledge Development
- Chief Knowledge Officers, Chief Learning Officers, and Chief Privacy Officers
- Enable Exchange of Tacit Know-How, Skills, and Abilities
-Train employees better, Equip them with the latest skills (train developed internally or externally)
- Brainstorming, Break-Out Meetings, Focus Groups (make sure novices learn from experts)
- Embedding Knowledge into the Work Practices and Processes
- System Tracking of: employee expertise, training, aptitude, and other interest
- Insights of Individuals are Converted into Knowledge
- Team Knowledge Development
- Process Teams, Taskforces, Management Teams, or Advisory Teams
-Performance Goals
- Knowledge Creation Activities through Experimentation or Conceptual Collaboration in the Team (creation of - Knowledge Artifacts/Team Presentation s or Q&A Sessions/Common Mistakes and Main Causes)
- Mentoring
Training Programs
- Qualifications for Jobs
- Executive Development
- Development of Ethical Knowledge (According to the Law)
- Identify Intermediate Goals Leading up to Acquisition Performance
- Use HR Practices to support Climate for Learning at an individual and group levels
- Win Knowledge Resources through contacts with the community (e.g. conferences/education/industry networking/collaborative networks of researchers)
- Fund "Applied Research"/Publishing Scientific Journals/Partnerships with Research Centres/Engage in an Agenda of Open Network Relations for Knowledge Production
- Create Social robust Knowledge in Interaction with Society and Stakeholders (Organizational Initiatives of Social Responsibility)
- Administration and Management Allegiance to conduct KM efforts
- Programs and Tactics to increase focus in Monitoring Quality Management (facilitates administration of processes across distinct departments)
- Strategic Management and Leadership Performance Implementation Model

Knowledge Distribution
- Leveraging Technology in Education (Schools/College Institutions) / deploying web-based courses,
- Mobilize expert knowledge within the organization
- Communication-based technology (e.g.-mail, video conferencing)
- Institutionalizing Knowledge Sharing Incentives
- Developing Protocols for Internal Access to Knowledge Assets of the Organization (Sharpening Up of Internal Access Procedure)
- Leaders collaboration across departments of the organization
- Network Resource Sharing
-Professional Circles - Non-formal meetings that take place at night in a social setting (outside the company) where professional topics are approached (e.g. Creativity and Innovation)
Internal Journals - Enable employees to share their ideas and experiences across the organization
- Aligning KM with competency management, performance management, and change management as part of the human capital strategy
- Knowledge Leader (impact of senior leadership on knowledge management to effective performance of organizations)
- Leadership Research - business knowledge/behaviors: information search, acquisition and use/Contingencies: knowledge and information requirements of Decision Situations Systematic Examination of leaders knowledge impact on organizational performance
- Instituting Programmes of Internal and External Knowledge Transfer, Establishing Communities of Learning, Knowledge-Based Human Resource Strategies, and IT- Based Knowledge Management Systems - Dissipate the NIH (not invented here) syndrome
- Identify Sources of Business Data and Information/Brought Together and Co-ordinated/selected and shared/disseminate such knowledge to various parts of the organization as required KM can be opperationalized through technological (technological networks) and/or sociocognitive (social networks)
- E-mail Networks/Information Systems/Knowledge Management Systems - Technological Knowledge Network Six-Sigma (Quality/Knowledge Development)/using cross-divisional and cross-functional teams
- Promote interaction and communication in social settings to drive knowledge sharing (synthetization of individual knowledge)
- Dissipate Knowledge Hoarding Culture through Cooperative Involvement, Trust and Incentives
- Managing Communications between Operational Areas and External Stakeholders

Knowledge Utilization
- Lead Privacy Issues (government/legislative bodies and industry leaders)
-Exploit Existing Knowledge
-Efficiency, Adaptability, and Innovativeness
- Promote New Application of this Knowledge
  - Provide knowledge regarding stakeholders´ goals in relation to team´s work
- Mutual Briefings and Updates
 - Improve Team´s Knowledge Processes (team matrix, the expert web, the project compass, visual protocolling, or lessons learned repositories)
- Explicit definition of the Communication Channels desired within the Team (e.g e-mail ploicy)
- Define synchronous (presential meetings) and asynchronous communication (e-mails) - Customised Assortment of Communication Tools
- Sharing the Same Physical Space: Project Debriefings/Social Events
- Leveraging Best Practices throughout the Organization and Fostering or Exploiting Core Competencies
- Team Knowledge Application &Team Knowledge Reuse
- Knowledge Dissemination Measurement Framework
- Implementing and Link Sustainably: Conceptual Framework with Organizational Practices
- Organizational Strategic Planning
- Converting Public Relation and Communication Knowledge and Expertise into Effective Tactics and Strategies
-Benchmark (Role Model)
  - Provide Mechanisms and Processes to Create a "Smart" Organization: able to learn from experience-based knowledge and transfer it into new knowledge in the form of product and/or service innovations
- Lead and Promote the Knowledge Management Agenda
- KM Software Tools
- Use HR Practices to Link knowledge of Leader´s and their competencies and tasks to organizational strategy
- KM champions/CKO
- Aligning KM with competency management, performance management, and change management as part of the human capital strategy
-Reliance on Networks Implies the Need to Establish common Values and Knowledge, and Management through Professional Norms and Information
-Extensive Experience and Deep Knowledge of long-term employees to Provide Innovative Ideas and drive them to fruition
-Transmit to employees that they are the creators/transferers of knowledge and users centering their attention on KM efforts (getting the right knowledge to the right people)

Knowledge Retention
- Knowledge Repositories
- Ensure maintenance of Integrity of Customer Data/ Privacy Standards are Maintained
- Leverage/Protect and Preserve existing Knowledge Resources (Make Knowledge Inimitable and Non-substitutable)
- Segmenting and Catalogue Knowledge Assets (Increase it´s Protection)
- Lessons Learned for Future Activities
- Systematic Reviews or Lessons learned sessions
- Top Management Explicit Values & Norms Statement (trust/openness/courage)
- Team Continuity/Consistency
-Tools that Aggregate Individual Knowledge
- Performance Evaluation linked to Retain IC and Foster Commitment
- Incentive System
- Promote a Knowedge Sharing Culture (Socio-Organizational and Culture as drivers) to maximize return on: tangible and intangible knowledge assets and resources such as the tacit knowledge/competencies/experiences
- Increase the capacity to Learn from Past Failures and Successes in Strategic Decision-Making/Deepening the Knowledge Base of the Company (reaching Knowledge Embedded on Products and on Employees)
- Changes that Occur with KM Implementation: Strategically/Structural/Environmental (attitude of employees)
- Promote a Knowledge Sharing Culture (Socio-Organizational and Culture as drivers) to maximize return on: tangible and intangible knowledge assets and resources such as the tacit knowledge/competencies/experiences
- Increase the capacity to Learn from Past Failures and Successes in Strategic Decision-Making/Deepening the Knowledge Base of the Company (reaching Knowledge Embedded on Products and on Employees)
- Organizational Culture that fosters Cooperative Involvement, Trust linked with Incentives/ Combine technology with the organizational culture conducive to knowledge creation and sharing
- Embodied competencies into organization´s norms and values
-Structural Closure: important in interpersonal networks, to foster shared behavioral norms and knowledge-sharing routines, curbing opportunism in collaborative networks, with higher innovative outputs
 -Unit Based File Coordinator - Implement and coordinate a standardized filing system, conduct audits regarding quality and standard of entries, who can preserve paper-based records, and ensure that records are complying with Data Protection and the access needs (e.g. of patients)

Table 43

Selected Leadership KM Practices

Knowledge Acquisition
- Training
- Maintaining ongoing ties with Academia
-Team Knowledge Elicitation
-Retrieve Knowledge from various sources interlocking it with data;
--Strategic Alliances for Learning (developing forums with different groups; job rotation; personnel transfers; ongoing training and development programs; sharing knowledge through written documents; joint ventures for knowledge acquisition purposes);
- Leveraging Best Practices throughout the organization to exploit core competencies;
-Work-Based Learning and Capability Development through Specialist Training

Knowledge Development
- Enable Exchange of Tacit Know-How, Skills, and Abilities
-Train employees better equipping them with the latest skills (train developed internally or externally);
- Embedding Knowledge into the Work Practices and Processes
  - Team Knowledge Development
- Process Teams, Taskforces, Management Teams and Advisory Teams;
- Mentoring
- Qualifications for Jobs
- Development of Ethical Knowledge (According to the Law)
- Use HR Practices to support Climate for Learning at an individual and group levels
-Win Knowledge Resources through contacts with the community (e.g. conferences; education; industry networking; collaborative networks of researchers);
- Create Social robust Knowledge in Interaction with Society and Stakeholders (Organizational Initiatives of Social Responsibility)
- Administration and Management Allegiance to conduct KM efforts
- Programs to increase focus in Monitoring Quality Management
- Strategic Management and Leadership Performance Implementation Model

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Knowledge Distribution
- Mobilize expert knowledge within the organization
- Institutionalizing Knowledge Sharing Incentives
-Developing Protocols for Internal Access to Knowledge Assets of the Organization (Sharpening Up of Internal Access Procedure);
-Leaders collaboration across departments of the organization;
- Network Resource Sharing
- Professional Circles and Non-formal meetings (using a social setting outside the company to discuss professional topics are approached to promote Creativity and Innovation)
-Internal Journals (enable employees to share their ideas and experiences across the organization);
-Promote interaction and communication in social settings to drive knowledge sharing (synthetization of individual knowledge);
- Managing Communications between Operational Areas and External Stakeholders

Knowledge Utilization
-Lead Privacy Issues (government, legislative bodies and industry leaders);
-Promote Efficiency, Adaptability, and Innovativeness
- Promote New Application of Previous Knowledge
  - Provide knowledge regarding stakeholders´ goals in relation to team´s work
- Mutual Briefings and Updates
Improve Team´s Knowledge Processes (team matrix, the expert web, the project compass, visual protocolling, or lessons learned repositories);
- Knowledge Dissemination Measurement Framework
-Implementing and linking sustainably through a conceptual framework with Organizational Practices;
- Converting Public Relation and Communication Knowledge and Expertise into Effective Tactics and Strategies
-Benchmark (Role Model)
- Lead and Promote the Knowledge Management Agenda
-Promote the contribution of long-term employees to provide Innovative Ideas and implement them (Extensive Experience and Deep Knowledge);
-Transmit to employees that they are the creators and or transferors of knowledge and users centering their attention on KM efforts (getting the right knowledge to the right people);

Knowledge Retention
- Knowledge Repositories
-Leverage, Protect and Preserve existing Knowledge Resources (Make Knowledge Inimitable and Non-substitutable);
-Segmenting and Catalogue Knowledge Assets (Increase it´s Protection);
- Systematic Reviews or Lessons learned sessions
-Performance Evaluation linked to IC Retention
-Promote a Knowledge Sharing Culture (Socio-Organizational and Culture as drivers) to maximize return on: tangible and intangible knowledge assets and resources such as the tacit knowledge; competencies; experiences;
-Increase the Capacity to Learn (Past Failures and Successes in Strategic Decision-Making; Deepening the Knowledge Base of the Company, Reaching Knowledge Embedded on Products and on Employees);
- Organizational Culture that fosters Cooperative Involvement (Trust linked with Incentives; Combine technology with the organizational culture conducive to knowledge creation and sharing);
- Embodied competencies into organization´s norms and values
-Structural Closure: important in interpersonal networks, to foster shared behavioral norms and knowledge-sharing routines, curbing opportunism in collaborative networks, with higher innovative outputs;
- Unit Based File Coordinator (Implement and coordinate a standardized filing system, regular quality audits and standard of entries, who can preserve paper-based records, and ensure that records are complying with Data Protection and the access needs;

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Table 44

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Creativity Literature KM Practices; Source: Elaborated by the Author

Knowledge Acquisition
-Heterogeneous Team Assemblance (knowledge/information diversity)
-Action Learning Methods (small groups/learning set, set advisers, a problem/task focus, outcomes focusing on real time action, opportunity for reflection for all learners)
-Change Management – necessary management skills to effect change by exploring the characteristics and tools of a change process (e.g., strategic communication)
 -Offering Training Opportunities that can increase individuals' knowledge base or their creativity relevant skills, employees will try to be more creative in their work
-Promote Customers Involvement (e.g consumers designing a prototype to be used as a model for a product)
-Sources of External Knowledge to use in new product development : Suppliers, Customers, Consultants, Benchmarking, Reverse Engineering , Patent Applications, Scientific and Trade Publications, and Conferences
-Executives with long experience in an industry bring detailed knowledge about how that industry operates
-Knowledge acquired from the external relationships is critical to technology development for it would improve the depth and width of organization's knowledge and thereby let the organization have distinct technology knowledge from its competitors. Thus, the greater the depth of knowledge – especially knowledge acquired by the interactions with external organizations – the better the capabilities of thinking and product differentiation improve.

Knowledge Development
-Team learning involves the process of cross-fertilization among team members, thereby encouraging the flow of ideas within the team.
-Create and Locate Organizational Knowledge
-The management education/training is one of the most important sources of competitive advantage in any organization. Formal management education/training is a learning experience designed to help employees gain the proper knowledge and skills needed to meet the environmental challenges. Certified, formal management training programmes provide accreditation. It is ongoing process in support of organizational growth and advancement, for example, by providing a forum for the communication of organizational strategies, new values, tools, and work performance improvement
-Balance HR Practices regarding Exploration and Exploitation
-Promote Reward System that fosters Creativity and Motivation.
-Measuring Organizational Performance in KM, categorized into four groups: financial measures, intellectual capital, tangible and intangible benefits, and balanced scorecard;
-Organizational creativity is the capability of creating valuable and useful products, services, ideas, or procedures by individuals working together in a complex social system open learning to be effective between organizational members firms must have mechanisms to assist and enable the management of knowledge and innovation
-Organizational Learning corporate culture determines values, beliefs, and work systems that encourage learning and knowledge sharing, in order to develop the organization's capabilities and guide it to change and innovation s.

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Knowledge Distribution
-Collective problem-solving processes - Distributed Work Arrangements, use Multi-Unit Organizational Form, and Interorganizational Relationships (mergers/acquisitions/alliances) -Experience can be acquired directly by the focal organizational unit or indirectly from other units -Learn indirectly from the experience of other units as well as directly from their own experience Organizations learn indirectly from the experience of other units as well as directly from their own experience. Learning indirectly from the experience of others, or vicarious learning, is knowledge transfer. -Network building and Systematic Dissemination of ideas/Professional Networks /Foster Team Demography Diversity
Knowledge Utilization
-Promote the utilization of transactive memory systems, shared mental models, and prior experience to enhance group performance -Systematic and Organized approach to Improve the Organizations ability to mobilize knowledge to enhance decision-making, take actions, and deliver results in support of the underlying business strategy Knowledge Management Systems could be developed with a focus on the components that are shown to impact creativity most (e.g selection process and special projects) -Quality of the performance associated with: Training/Small Group Problem Solving/Employee Suggestion/Cross-functional Product Design -Near-Net-Shape Casting: Integrating in-house expertise with the Knowledge of Industry Experts and Suppliers -Exploitation of Network Sources -Team Members Knowledge Contribution: 1. Reward team members contribution;. 2. Create a trust atmosphere to share knowledge; 3.management should make sure communication channels are appropriate and that all team members feel their contributions are appreciated, acknowledged, and will bring good outcomes, and thus increase their pace of work, applying their creativity toward meeting the goals of the project. -Collaborative Work: creativity requires the pooling together and effective integration of different perspectives, knowledge, skills, and abilities on a task. -Support leadership encourages teamwork cohesion to organizational performance is improved through teamwork cohesion, OL, implement innovation (technical and administrative) for meeting the changing needs of their environment.
Knowledge Retention
-Innovation : providing rich cognitive resources and by making diverse approaches available, a greater team knowledge stock offers more opportunities to recombine existing information and ideas Content Approach (types and characteristics of knowledge, e.g tacit v.s explicit) and the Process Approach (the way knowledge is handled, shared, and utilized among individuals) -Regarding innovation, employees with valuable knowledge and skills are positively associated with innovative capacity, because they contribute to the identification of new market opportunities, and employees with such knowledge are willing to experiment and apply new procedures. It is among these individuals that organizations find the greatest collection and diversity of skills. These employees are also the most flexible in acquiring new skills, which enhance the firm's innovative performance -A certain norm of behavior is a set of shared values and beliefs within an organization and is shaped by the interactions between its members. Its existence within an organization will directly or indirectly affect members' behavior and the implementation of change.

Table 45

Selected Creativity KM practices
Knowledge Acquisition
-Heterogeneous Team Assemblance (knowledge and information diversity); -Action Learning Methods (small groups; learning set; set advisers, a problem/task focus, outcomes focusing on real time action, opportunity for reflection for all learners); -Sources of External Knowledge to use in new product development: Suppliers, Customers, Consultants, Benchmarking, Reverse Engineering, Patent Applications, Scientific and Trade Publications, and Conferences; -Executives with long experience in an industry bring detailed knowledge about how that industry operates; -Acquire Knowledge from the external relationships (by the interactions with external organizations – the better the capabilities of thinking and product differentiation improve)
Knowledge Development
-Team learning (cross-fertilization of team members and flow of ideas within the team); -Create and Locate Organizational Knowledge -Management education training (help employees gain the proper knowledge and skills needed to meet the environmental challenges, support of organizational growth and advancement, through forums for the communication of organizational strategies, new values, tools, and work performance improvement); -Balance HR Practices regarding Exploration and Exploitation -Measuring Organizational Performance in KM, categorized into four groups: financial measures, intellectual capital, tangible and intangible benefits, and balanced scorecard; -Mechanisms to assist and enable the management of knowledge and innovation to foster creativity; -Organizational Learning corporate culture that determines values, beliefs, work systems, encourage learning and knowledge sharing guiding change and innovation;
Knowledge Distribution
-Collective problem-solving processes; -Experience can be acquired directly by the focal organizational unit or indirectly from other units; -Vicarious Learning: Learn indirectly from the experience of other units as well as directly from their own experience; -Network building and Systematic Dissemination of ideas; Professional Networks; Foster Team Demography Diversity;
Knowledge Utilization
Promote the utilization of transactive memory systems; shared mental models; prior experience (to enhance group performance); -Knowledge Management Systems to mobilize knowledge and enhance decision-making; -Enhancing Quality Performance Procedures: Training; Small Group Problem Solving, Employee Suggestion, Cross-functional Interventions; -Team Members Knowledge Contribution: 1. Reward team members' contribution; 2. Create a trust atmosphere to share knowledge; 3.management support to appropriate communication channels (make team members feel their contributions are appreciated); -Collaborative Work to increase creativity (pooling together and integrate effectively different perspectives, knowledge, skills, and abilities on a task);
Knowledge Retention
-Identification of new market opportunities through the contribution of employees with valuable knowledge and skills (which are also most flexible in acquiring new skills) to impact innovation;

Table 46

Recruitment Literature KM Practices; Source: Elaborated by the Author

Knowledge Acquisition

-Recruitment & Selection Planning Phase (job analysis/ review and development of a job description/ job specification and person profile for a particular vacancy/development of a competency framework/ deciding on the selection criteria and methods)

-Proposals for new programs, changes to existing programs.

-Advice given by health professionals from other areas

-Socio-Spatial Knowledge Networks: (1) identify strategic locations within a community for future interventions and, (2) evaluate the effectiveness of existing interventions (e.g. population groups prone to diabetes)

-Control on staff recruitment and transfers in line with health service needs

-Women and minority recruitment. First, this study establishes a link between diversity management practices and the attraction of high achievers.

Knowledge Development

-The job description details the contextual and background information of the position, the job duties and the performance indicators.

-Job Analysis (gathering and recording of information on a job /creating the job description and the job specification)

-Support to environmental management system: 1- Provide training; 2- Guarantee effective communication; 3- Motivate employees

-Self-Management (Chronic Care) - six to eight week group programs/ content tailored to participants(patients with one or two diseases)/ (disease-specific programs) or (generic programs)/ Provide people with knowledge and skills needed to manage their risk factors/ Monitor their disease(s)/ Make effective use of services and/ or manage the impact of disease

-'Develop and implement HR tactics and action plans in the store to support the stores in achieving the business objectives;

-This suggests that perceptions of organizational attractiveness are related to employment practices: an organization that projects a positive employment message may signal that it is likely to provide desirable job attributes, such as strong opportunities for career growth and development, for potential job applicants

Knowledge Distribution

-Establish and maintain an effective communication system, to provide HR professional advices for the store management; Manage the HR function within the store, develop HR associates, increase the team productivity and service level;

Knowledge Utilization

-The job specification lists the knowledge, skills and abilities required for a successful applicant to carry out the job duties and achieve the set performance standards

-Job specification lists the knowledge, skills and abilities required for a successful applicant to carry out the job duties and achieve the set performance standards. Finally, the job specification involves employers making use of competency frameworks to specify the models of employee characteristics and behavior required of potential employees to do a particular job effectively

-Culture of inclusion, which is defined as an organizational context that enables people with distinct experiences, mental models and ways of understanding the world to work together in order to achieve individual, collective and organizational growth

-Evidence-informed Decision Making - consideration of the best available research evidence along with other important factors that influence program and policy decisions

-Top-down policy programmes of self-management support has been to contribute to more effective chronic disease management. Self-management education has also been identified as having a key role to play in utilization reduction and containing health care spending

-EPP (Expert Patients Programme) - improve self-efficacy and to enable participants to more effectively manage their condition. The course is delivered from a scripted manual and sessions include: relaxation, nutrition, exercise, fatigue and medication. There are no specific topics dealing directly with the issue of utilization, instead there are two sessions entitled 'Informing The Health Care Team' and 'Working With Your Health Care Professional' whose main focus is improving communication skills with the aim of enhancing the patient–professional relationship

-The salary has a fixed-base component. The variable or ''floating'' component was performance-related and was normally linked to service provision e.g. number of patient consultations or drugs pre- scribed. Managers had the freedom to set the structure of the salary. For example, in Xinluo County at Longmen THC only 10% of a doctor's salary was 'floating', whilst in Jiangshan THC it was 30%.

-Performance is achieved by a combination of factors of which the quality of care provided and the amounts—measured in terms of productivity—are important components of the individual contribution. It is recognized that ensuring complementary inputs such as supplies and equipment

Knowledge Retention

-In public firms, the skills of people within the organization are gradually developed. There is an inwards orientation and attempts are made to fill vacancies that arise with the firm's own staff.

-Diversity Management - effective recruitment and management of people which are diverse in terms of gender, culture, race, age, religion, language and nationality

-Human Capital - The number of years of education and the diversity in employees' knowledge bases have a positive impact on the knowledge creating capability of large technology firms.

-Lifetime Employment /Seniority-Based Reward e.g. Promotion)/Enterprise Unionism/ Strong Company Philosophy/Unitary Corporate Culture, Long-Range Staff Development Planning / Consensus Decision Making

-Diversity Management - Reduces turnover and absenteeism /Attracts the best workers/Increases Sales and Marketing efforts/ Enhances Creativity and Innovation/ Improves decision-making/ encourages attitude change/ promotes greater inclusion of all individuals into formal company programmes and informal networks)

Table 47

Selected Recruitment KM Practices

Knowledge Acquisition

-Recruitment & Selection Planning Phase (job analysis, review and development of a job description, job specification and person profile for a particular vacancy, development of a competency framework, deciding on the selection criteria and methods);

-Advice given by health professionals from other areas

-Control on staff recruitment and transfers in line with health service needs

Diversity Management practices and the attraction of high achievers (Women and minority recruitment);

Knowledge Development

-Job Analysis (gathering and recording of information on a job /creating the job description and the job specification);

-Environmental Management System: 1- Provide training; 2- Guarantee effective communication; 3- Motivate employees;

-Self-Management (Chronic Care) - group programs; content tailored to participants; disease-specific programs or generic programs;

-Develop and implement HR tactics and action plans in the organization to support the departments in achieving the business objectives;

-Employment practices that create attractiveness (strong opportunities for career growth and development, for potential job applicants;

-Internal Labour Market Policies;

Knowledge Distribution

Knowledge Utilization

-The job specification lists (of the knowledge, skills and abilities required for applicants to carry out the job duties and achieve performance standards);
-Implement Competency Frameworks to Enhance Performance;
-Culture of Inclusion: enables people with distinct experiences, mental models and ways of understanding the world to work together in order to achieve individual, collective and organizational growth;
-Evidence-informed Decision Making: consideration of the best available research evidence along with other important factors that influence program and policy decisions
-Top-down policy programmes of self-management support has to increment effective chronic disease management;
-EPP (Expert Patients Programme) - improve self-efficacy, enable participants to more effectively manage their condition through courses that focus improving communication skills improvement the patient–professional relationship;
-Salary with a Fixed-Base Component combined with a variable component (performance-related).

Knowledge Retention

-Human Capital Management - attract, develop and retain employees' with diverse knowledge bases;
-Diversity Management Procedures focusing in enhancing creativity, innovation and decision-making (promoting the inclusion of individuals into formal programmes and informal networks);

Table 48

Motivation KM Literature Practices; Source: Elaborated by the Author

Knowledge Acquisition

-NPM (New Public Management) are important criteria in recruitment and selection. This ideology requires that individuals perform under conditions of competition, quality audits and administrative demands that ensure the tracking of students and transparency of outcomes.
-While firms may have difficulty "knowing exactly what they know", when they encourage individuals to contribute to the collective knowledge of the firm and to enhance their own knowledge base, they are building a resource that has the potential to enable the firm to gain a position of competitive advantage and superior financial performance.
- The transfer of routines, tools, and technology across units within organizations means that members of a recipient unit benefit from knowledge acquired at the first unit.
- Observing someone to perform a task is more beneficial for subsequent performance than other types of experience, such as that acquired through classroom training. Experience individuals acquire by observing someone perform a task provides opportunities for them to acquire tacit as well as explicit knowledge. Individuals who learn through observation may not be able to articulate what they learn but are able to transfer the knowledge to a new task.
-Communities of practice (COPs), types of practice-related social networks, are tightly knit groups where people can work together to share thoughts, find solutions, and pursue innovation
-Training (including acquisition of management skills, technology, and cross-cultural under- standing) also was predictive of the measures of social capital.
- Computer-supported collaborative learning (CSCL)
-Network technology facilitates interaction among learners for acquisition or sharing of knowledge.

Knowledge Development

-Development of expert knowledge of young employees and become specialists in a certain function. To secure the efficiency strategy, an exploitative learning mode needs to be dominating and capabilities should focus on the improvement and reconfiguration of successful processes and established routines.
-Leadership is pivotal to successful knowledge sharing across an organization, because leadership can affect so many of the factors in the work environment and organizational culture that will influence attitudes towards knowledge sharing. Managers need to lead in knowledge sharing and, in order to do this, they themselves need to appreciate the value of knowledge sharing to 'getting the job done' and they need education and training on ways in which they can support and encourage knowledge sharing
-Transactive memory systems and common short-hand languages are properties of relationships that affect members' ability to create, retain, or transfer knowledge.
-Decision making and control mechanisms conducive to good communication and effective monitoring of the collaboration need to be developed
-Human resource management (HRM) functions must address control, trust, and conflict issues, establishing mechanisms to enhance trust and performance
-Writing unshared knowledge into the joint handout.
-Web-based technology is a potential tool for supported collaborative learning that may enrich learning performance, such as individual knowledge construction or group knowledge sharing.
-Mentoring theory also predicts that mentoring programs, which emphasize developmental contacts and interpersonal relationships, play a pivotal role in actualizing positive organizational outcomes (e.g. promotion, job satisfaction, and job involvement)

Knowledge Distribution

-Identified the availability of knowledge as a facilitator of knowledge transfer. Consequently, many organizations have implemented practices to increase knowledge availability. For example, employees are moved between units to share routines developed in their original unit with their new unit. As a result of this increased availability of knowledge, units are exposed to a myriad of useful ideas, routines, and practices
-As in internal labor markets, employees in high-commitment work systems gain firm-specific 'knowledge about non-standard equipment, specialized processes, the capabilities of other employees, and firm-specific communication channels and values..
-Foster the development of networks that serve as channels promoting the relation between firms or units in a value chain while as well as social relationships between decision makers or players.
-Create transparent communication systems, for free-flow of information with real time accessibility of information (about goals, resources, strategies, and achievements etc.) by everyone concerned, and promote the participation of user
-Promote knowledge sharing at different levels - individuals, groups, departments and organizations through managerial actions and the proper environment (corporate culture)
-Accordingly, the management of intelligence and knowledge is a crucial aspect of the work of policing, and police forces need to be proactive in managing both explicit and implicit knowledge, and in developing their competencies in knowledge management and in promoting and facilitating knowledge sharing.
-Members of a unit are unlikely to transfer knowledge from other parts of the organization if they are not rewarded for utilizing internal knowledge. Social rewards can be just as important as monetary rewards. Strong ties promote the transfer of tacit knowledge because strong ties are more likely to be governed by the norms of reciprocity.
-Professional virtual communities (PVCs) bring together geographically dispersed, like-minded people to form a network for knowledge exchange.
-If supervisory control is not a suitable approach for motivating knowledge sharing, in addition to incentive programs, enterprises should also offer an efficient communication platform (e.g. SAP) to induce cooperation among community members, offering the opportunity of self-coordinated behavior.
-If individuals in decentralized organizations contribute their knowledge without external forces, such as monitoring mechanisms or reward policies, the benefit of knowledge sharing will not increase with the community scale. Indeed, social planning may be infeasible in most of business environments; however, those employees serving in some kinds of organizations, such as US federal agencies or military units, may be used to supervisory control mechanisms. Therefore, these kinds of organizations should not neglect supervisory control mechanisms for motivating knowledge sharing
-Journals, supplemented by a search of selected electronic databases, we map twelve substantive domains classified into four broad groups: taxonomic and philosophical (e.g. different types of knowledge); theoretical discourse (e.g. critical organizational studies); disciplinary fields (e.g. organizational learning and Information Systems/Information Technology); and organizational processes and structures (e.g. organizational form).
-Knowledge transfer and exchange between researchers and users in the healthcare sector.
-Organizational culture (shared values, assumptions, beliefs, and behavioral norms) that establish both external adaptation and internal integration
-Formal knowledge governance mainly involves organizational enable structure, routine practices, etc. Informal knowledge governance mainly involves networks, culture, etc. Formal knowledge governance will typically bear influence upon informal knowledge governance.

Knowledge Utilization
- Solid policies and practices, including employee evaluation and recognition systems that are honest, straight-forward, and carried out with dignity - Creating a GARP® Employee Scorecard for tracking employee performance metrics in order to improve the performance of an entire organization, department, or even a small team to drive future performance. -Firms with an efficiency orientation - implement an employment system based on a pyramid structure, on-the-job training as well as senior retention that furthers an approach of bureaucratic regulation and can be associated with the internal labor market archetype. The efficiency-oriented organizations are experience-based deal with complex but familiar problems. -Innovations are likely the result of integration between business processes which are ongoing and repetitive (e.g. routines, R&D, and technical support) and project processes that tend to be temporary and unique (e.g. project-specific knowledge and know-how) -Empowering Leadership favors knowledge utilization
Knowledge Retention
-Methodologies that rely on retrospective data from critical incidents of knowledge transfer (e.g., best practice, innovations) whose merits have been previously recognized. -Every employee now has the responsibility to understand and comply with the principles of recordkeeping that allow the organization to adequately facilitate and sustain day-to- day operations, consistently remain compliant with applicable laws and regulations, and effectively under- stand what it has done in the past so it can make better choices for its future. -Perceived Organizational Support (POS) must be enhanced in order to promote employee retention, for example through distributive and procedural justice regarding the policies that are implemented by top-management -Organizations gather a variety of information on a daily basis and many companies have libraries that are full of information that is never used to enhance the company's competitive position, improve their products, or serve customers. This information may never produce knowledge if it is simply stored in paper form (in libraries or files) or electronic form (in information technology systems). -Shared representations, interpretations, systems of meaning, and knowledge bases -Formal knowledge governance mainly includes organization structure, reward systems, job design and leadership. Informal knowledge governance mainly consists of networks, company culture, management style, organization fairness and managerial support.

Table 49

Selected Motivation KM Practices
Knowledge Acquisition
-Encourage individuals to contribute to the collective knowledge of the firm and to enhance their own knowledge base through "knowing exactly what they know" programs; -The transfer of routines, tools, and technology across units within the organization; -Experience through Observation Procedures. -Communities of practice (COPs) and other practice-related social networks (to share thoughts, find solutions, and pursue innovation); -Training (including acquisition of management skills, technology, and cross-cultural understanding); -Network technologies to facilitate interaction among learners for acquisition or sharing of knowledge;
Knowledge Development
-Efficiency Strategy: Development of expert knowledge of young employees to become specialists in a certain function, exploitative learning mode focused on improving and reconfiguration of successful processes and established routines; -Leadership involvement to create Work Environments and an Organizational Culture that influence attitudes towards Knowledge Sharing; -Transactive Memory Systems and Common Short-Hand Languages (affect members' ability to create, retain, or transfer knowledge); -Decision Making and Control Mechanisms (conducive to good communication and effective monitoring of the collaboration need to be developed); -HRM mechanisms to enhance trust and performance (to deal with control, trust, and conflict issues); -Web-based technology tool for supported collaborative learning (also may enrich learning performance, individual knowledge construction or group knowledge sharing); -Mentoring Programs: emphasizing developmental contacts and interpersonal relationships;
Knowledge Distribution
-Identify the availability of knowledge as a facilitator of knowledge transfer and implement practices to increase knowledge availability (e.g employees allocated between units to share routines developed in their original unit with their new unit; -High-Commitment Work Systems to built firm-specific knowledge and firm-specific communication channels and values; -Create transparent communication systems, for free-flow of information with real time accessibility of information (about goals, resources, strategies, and achievements etc.) promoting the participation of user; -Managerial actions to promote knowledge sharing through proper environment/corporate culture (at different levels individuals, groups, departments and other); -Proactive Policy of Management of explicit and implicit knowledge developing employees´ competencies in knowledge management and in promoting knowledge sharing; -Promote Knowledge Sharing Monetary Reward (from different parts of the organization) and/or Social Reward; -Professional virtual communities (PVCs -gather geographically dispersed, like-minded people to form a network for knowledge exchange); -Supervisory control for motivating knowledge sharing, incentive programs, and efficient communication platforms (e.g. SAP) and /or to induce cooperation among community members, offering the opportunity of self-coordinated behavior; -Promote Knowledge sharing through monitoring mechanisms, reward policies or social planning; -Categorize the Knowledge of the Organization Journals; electronic databases; map relevant domains (e.g. critical organizational studies; disciplinary fields);
Knowledge Utilization
-Implement Employment System with an Efficiency Orientation - on-the-job training and senior retention that furthers an approach of bureaucratic regulation and can be associated with the internal labor market archetype;
Knowledge Retention

Table 50

New Ideas Generation Literature KM Practices; Source: Elaborated by the Author

Knowledge Acquisition

-Gaining knowledge required, mastering and using it, plus development and management of matters inside and outside of an organization will be the key factors for competitive advantage.

-Knowledge sourcing; Personal networks; Knowledge networks; Inter-organizational networks; Clusters; R&D

-Informal Knowledge Channel - (reading literature and patent specifications, monitoring competitors, recruiting specialists, and participating in trade fairs and conferences)

- Identify, Collect, and Compile product development relevant information from stakeholders comparing it with internal stakeholders' perspective

-Information generating activities – routine sales and management meetings with customers stakeholders' information and requirements.

Knowledge Development

-Groups develop "transactive memory systems" which affects group-performance

-Organizational Learning (organizational learning from four angles: 1. Adaptive learning; 2. Hypothetic sharing; 3. Development of knowledge base; 4. Effect of institutionalization of experience.)

-Develop routines lead employees to integrate their individual knowledge into daily activity of organizations

-Develop practices that promote group cooperation, or apprenticeship

-Communities of practice/trade fairs/personal acquaintance

-Six Sigma Black Belt Projects – development of measures of explicit- and tacit- knowledge-creation practices in process improvement.

- People-oriented soft practices for capturing tacit knowledge for project success, more analytical focused practices capture explicit knowledge.

-Integrate employees´ perspectives (personal values, beliefs, and knowledge) with Stakeholder/Environmental information/Environmental expectations/Product development

-Talent Management have an integrative and selective focus; TM use similar tools to HRM however focusing on a small segment of the workforce that distinguishes itself by current performance or future potential. TM covers recruitment, development, deployment and retention. The main objective is to attract, recruit, develop and retain talented individuals (e.g. through Corporate Institute of Personnel and Development). The focus is on 'talent pools', internal and external to the organization.

- Adopt and develop a knowledge management agenda aided by a Chief Knowledge Officers (CKOs)

Knowledge Distribution

-Discovery, Invention, and Innovation/R&D/Networked knowledge and communities of practice/Families and clients

- Knowledge Inputs and Outputs (description): formal (eg, via a set of scores from standardized assessments), informal (eg, as subjective observations of caregivers, teachers, employers, and family members.

-Knowledge Outputs: intellectual property - (eg, patents)25 but also human capital (eg, knowledge, skills, and capabilities of rehabilitation engineers and clinicians), organizational capital (eg, institutional knowledge and experiences around therapeutic protocols or device testing methods), and social capital (eg, knowledge about client preferences and compliance, which is inscribed in relations among clinicians, researchers, and families).

- Knowledge communication; Universities; Transformation; Sustainable development; Sustainability communication

-Promote sourcing relevant knowledge, which is often distributed across organizations and individuals;

-Socialization practices demand physical proximity and joint action

-Externalization practices support communities of practice at distance.

-Six Sigma: socialization is promoted through the inclusion of individuals in project teams from across functional, hierarchical, and organizational boundaries (e.g., suppliers and customers), and by the attendance of team meetings.

- CKOs have a strategic perspective that is related with improve customer relations and promoting knowledge management practices.

Knowledge Utilization

-IT and Knowledge management systems address the management of organizational processes related to the storage and retrieval of knowledge (and also transfer, creation and application of knowledge)

-The empowerment of individuals is vital, in order to encourage experimentation with new approaches to how business is conducted and the development and utilization of knowledge and skills.

-Organizational innovation (innovation is not a unilateral use of technical capability, managerial ability or learning-based organization (learning capacity), but an overall operation and performance of each ability of organization.)

- Use a task force to tackle a specific problem in the organization

- Problem-Solving knowledge is normally tacit therefore firms who can codify it better through organizational processes have an advantage

-Promote knowledge productive practices both, individual and social to align them with other processes so that they can be effective.

- Talent Management can be viewed as a core competency in HR: the management of senior managers and 'high-potential' people identified as strategic human resources playing a key role for the organization.

-The CKO makes sure that the right knowledge is provided for utilization after disseminationt

Knowledge Retention

-KT (Knowledge Translation) process from need to product. Identifying the principal process of the ecosystem as one of knowledge flow, we elucidate the roles of repository and networked knowledge, identify key consumers and producers in a trinity of communities of practice, and draw on knowledge management literature to describe different knowledge flows.

-Repository knowledge - scientific literature (eg, PubMed, conference proceedings)/innovation stage, rehabilitation technology databases (eg, European Assistive Technology Information Network), service history of rehabilitation technologies, consumer feedback, external product reviews, standard operating procedures (eg, as per International Organization for Standardization 9001 quality management systems requirements), and frequently asked questions may be among externalized, documented knowledge

-Knowledge is Stored and Communicated is also central to the way an organization capitalizes upon its knowledge assets. Communication among different organizational stakeholder groups facilitates the flow of knowledge into decision-making and thus results in creative responses and generation of new knowledge and ideas

-TM fosters 'employer brand' and 'workforce segmentation' in order to attract and retain key Individuals

- TM is a collective approach to recruit, retain and develop talent within the organization, looking forward to its future benefit

Table 51

Selected New Ideas Generation KM Practices

Knowledge Acquisition
-Promote knowledge acquisition mechanisms to acquire, develop and use knowledge (inside and outside the organization);
-Knowledge sourcing; Personal networks; Knowledge networks; Inter-organizational networks; Clusters; R&D
-Identify, Collect, and Compile product/service/intervention development relevant information from stakeholders comparing it with internal stakeholders' perspective;

Knowledge Development
-Foster Group "transactive memory systems" to affect group-performance;
-Organizational Learning (organizational learning from four angles: 1. Adaptive learning; 2. Hypothetic sharing; 3.Development of knowledge base; 4. Effect of institutionalization of experience);
-Develop routines that lead employees to integrate their individual knowledge into daily activity of organizations;
-Develop practices that promote group cooperation, or apprenticeship;
-Six Sigma: socialization promotion through the inclusion of individuals in project teams from across functional, hierarchical, and organizational boundaries (e.g., suppliers and customers), and by the attendance of team meetings;
-People-oriented soft practices for capturing tacit knowledge for intervention success, more analytical focused practices to capture explicit knowledge;
-Talent Management - focusing on a small segment of the workforce that distinguishes itself by current performance or future potential and develop talent through "Corporate Institute of Personnel and Development (focusing on 'talent pools', internal and external).
-Adopt and develop a knowledge management agenda aided by a Chief Knowledge Officers (CKOs)

Knowledge Distribution
-Discovery; Invention and Innovation; R&D; Networked knowledge and communities of practice; families and clients;
-Promote formal (eg, via a set of scores from standardized assessments) and informal (eg, as subjective observations of caregivers, teachers, employers, and family members) knowledge inputs and outputs;
-Value Internal and External Knowledge Outputs - patents, knowledge, employee skills and capabilities, institutional knowledge, experiences around therapeutic protocols or testing methods, knowledge about client preferences and compliance, which is inscribed in relations among clinicians, researchers, and families;
-Promote sourcing relevant knowledge, which is often distributed across organizations and individuals;
-Socialization practices demand physical proximity and joint action;
-Externalization practices that support communities of practice at distance;
-Chief´s Knowledge Officers: strategic perspective that is related with improve customer relations and promoting knowledge management practices;

Knowledge Utilization
-IT and Knowledge management systems integration - organizational processes related to the storage and retrieval of knowledge (and also transfer, creation and application of knowledge);
-Promote an orchestrated organizational innovation policy that combine use of technical capability; managerial ability or learning-based organization; overall operation and performance of each ability of organization;
-Use a task force to tackle a specific problem in the organization;
-Organizational Processes to codify Problem-Solving knowledge;
-Talent Management as a core competency of the organization (identifiy strategic human resources)

Knowledge Retention
-KT (Knowledge Translation) process from need to outcome (identifying relevant knowledge flows, repository and networked knowledge, identify key consumers and producers using communities of practice;
-Repository knowledge: scientific literature (eg, PubMed, conference proceedings); innovation stage; rehabilitation/treatment technology databases;
-Good Communication Channels among different organizational stakeholder groups to facilitate knowledge flow into decision-making;
-Development of knowledge base and promote the of institutionalization of experience;

Table 52

Level of Employee Competence Literature KM Practices; Source: Elaborated by the Author

Knowledge Acquisition
-Synergies between departments - which avoids duplication of work and to collect knowledge (also helps in benchmarking/staff development activities)
- Acquire knowledge regarding research management and engage in interdisciplinary interventions
- Firms should acquire external knowledge that relates to the base and structure of the firm´s already existing knowledge in order to be later integrated in internal routines, processes and diffused throughout the organization

Knowledge Development
-Competence-based learning (CBL) - individual trainings and learning paths can be developed to support the learner's development
- Mentoring and Partner Programs
- Developing appropriate learning programs focused on lifelong learning objectives
- Develop personal and intervention-specific learning
-Facilitate mutual learning, enable shared goal definition, create rules for cooperation and synergy, manage complexity and heterogeneity, plan integration, balance personal attitudes of involved personnel, fund publications in scientific journals
- Evaluations of experience gained
- Some key areas needed in managing projects are: Scheduling management and planning; Cost management; Quality management; Human resources management; Risk management; Knowledge management; Health and safety management; Conflict and dispute management; Ethical management; Stakeholder management; Information technology management; Communication management; Resources management; Financial management; Plant and equipment resources management.
- Internal development of technological competences

Knowledge Distribution
-Knowledge Transfer (Implicit knowledge can be externalized or shared by socialization and explicit knowledge can be combined or internalized to become implicit)
- Job rotation
- Foster a Culture of openness for personal development; openness for competence assessment and trust
- Balance organizational culture, rational goals, open systems (e.g. idea generation, information uptake) and internal processes (e.g. controlling, information management).
- Leverage the use of information technologies to improve information flow, knowledge sharing and foster between members of the firm, for virtual meetings (Internet B2E portals, e- mail, teleworking for example)

Knowledge Utilization
-Collaboration, which supports individuals and groups who use content and apply their competences to identify, exchange, and create knowledge - Foster active learning (learning by doing)

Knowledge Retention
-Integrate Competence Management Systems into KM System; -Competence portfolio -Knowledge Retention occurs when embedding knowledge in an individual (through observations, experiences and actions) or in an information system - SAP is an example of IT means enhances knowledge retention strategies -   R&D activities, diversity or breadth of the organization's knowledge base, prior learning experience, shared language, cross- functional interfaces, mental models and problem solving capacity are determinant for knowledge retention .

Table 53

Selected Employee Competence KM Practices
Knowledge Acquisition
-Synergies between Departments: to avoid duplication of work and to collect knowledge (also helps in benchmarking/staff development activities); -Acquire knowledge regarding research management and engage in interdisciplinary interventions
Knowledge Development
-Competence-based learning (CBL): individual trainings and learning paths can be developed to support the learner's development; - Mentoring and Partner Programs -Developing appropriate learning programs focused on lifelong learning objectives; -Develop personal and intervention-specific learning; -Evaluations of experience gained; - Management of Key Operational Areas: Scheduling management and planning, Cost management; Quality management, Human resources management, Risk management; Knowledge management, Health and safety management, Conflict and dispute management, Ethical management; Stakeholder management; Information technology management, Communication management, Resources management, Financial management, Plant and equipment resources management;
Knowledge Distribution
- Job rotation -Balance organizational culture, rational goals, open systems (e.g. idea generation, information uptake) and internal processes (e.g. controlling, information management); -Leverage the use of information technologies to improve information flow, knowledge sharing and for virtual meetings (Internet B2E portals, e- mail, teleworking for example);
Knowledge Utilization
-Collaboration, which supports individuals and groups who use content and apply their competences to identify, exchange, and create knowledge;
Knowledge Retention
.Integrate Competence Management Systems into KM System; -Knowledge Retention Procedures through observations, experiences and actions linked with an Information System available to several departments; -SAP and other IT means to enhance knowledge retention strategies; -Improve Knowledge Retention through: R&D activities, diversity or breadth of the organization's knowledge base, prior learning experience, shared language, cross- functional interfaces, mental models and problem solving capacity;