

EXPLORING TACIT KNOWLEDGE IN ORGANIZATIONS

by

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ABSTRACT

There has been a growing prevalent interest to explore the role of knowledge in organizations. Bhardwaj and Monin (2006) identified the knowledge of individuals' as a valuable source of competitive advantage. An organizations well-rounded institutional memory- the organizations collective experiences (Rothwell & Poduch, 2004), fosters competitive advantage. There is a prevailing need to scrutinize the role of tacit knowledge in organizations and how it's hard to articulate nature makes it difficult for organizations to acquire and preserve institutional memory value. The aim of this review is to illustrate that tacit knowledge contributes significantly to the institutional memory value, expansion and preservation. In an effort to simplify this relationship between tacit knowledge and institutional memory, a comprehensive literature search was performed. I first discuss the role of knowledge in organizations and use the literature on tacit knowledge as a guide to explain the importance of its elicitation for institutional memory expansion and preservation. I then propose: (1) the use of tacit knowledge elicitation as a mediator, and (2) recommend training and a learning organization environment as moderators, for the contribution to take place. Finally, I suggest that organizations: (a) Elicit tacit knowledge sharing at their human capital development training programs (b) develop and implement this trainings at managerial levels, and (c) a "know-why" method to elicit and capture tacit knowledge in a reference guide, to consequently add value to the institutional memory, I conclude with a discussion of implications and limitations for the proposed perspective, and provide suggestions for future research.

DEDICATION

I want to dedicate this accomplishment to my mother Diana Castaneda and my friend Cecilia Alvarez, whom I love and admire for their hard work and ability to inspire young people like me.

I dedicate this literature review to both of their curious need to understand tacit knowledge relationship to learning and to my mother's necessity to understand how can she possibly share her tacit knowledge with her children, to preserve the family business. I would also like to dedicate this to my father Alberto Plazas, who didn't have the chance to see me overcome and accomplish challenges. It is thanks to many of our similarities in character that I have been able to be discipline and determined. Finally, I would like to dedicate all my life and academic accomplishments, particularly this one to God. I am eternally grateful for his love and the opportunities that he has given me.

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INTRODUCTION

Organizations worldwide aim for competitive advantage to stay successful within their industries, but today this is far more complex than it used to. In today's competitive market finding ways to sustain and preserve organizations ability to outperform competitors is detrimental to their success. There are a variety of aspects that organizations take into account to remain competitive. One aspect identified by Bhardwaj and Monin (2006) was the value of the employees' knowledge within organizations. This review will focus on one specific dilemma that hinders organizations ability to support their institutional memory and thus seem to jeopardize their aim for competitive advantage.

Organizations need to retain knowledge from leaders of organizations it's a widespread concern. Preserving knowledge is getting harder and will worsen as the generation of "baby boomers" approaches their retirement age (Coffey & Hoffman, 2003). It is essential for organizations to acquire the best knowledge possible from this retirees and tacit knowledge plays a big role. Tacit knowledge is a source of inspiration for human action in the work place (Bhardwaj & Monin, 2006) and requires that organizations explore its role in organizational performance.

Organizations make enormous investments towards developing their workforce. They conduct a variety of procedures (e.g. recruitment, screening, interviewing, assessments, background checks, applications and other processes) that help them hire an exemplary working staff. Through the recruitment process companies try to select those who appear to be the best fit for their requirements and qualifications. Prospecting employees diligently showcase what they

bring with them; previously learned Knowledge, Skills and Attitudes (KSA's). These candidates KSA's become almost innate after they are hired and grow within their fields, and the company. These labor forces learn, develop and acquire new KSA's, and gain professional intuition through their respective domains and those of the company. Therefore, organizations expect idyllic results from their recruited knowledgeable and experienced personnel. After all they have invested time and money in these new and old employees.

After organizations allocate their investment to the development of their staff, the expectation is that employees meet the companies' goals with outstanding performance. For some employee level position this might be true, but for more complex critical thinking level positions this is not how it truly happens in the real business world. "The assumption is often made that whatever set of skills made someone successful at one type of job will work equally well when moving up the ladder" (Lehman, 2004, p1). What happens when employee development processes become continuous and valuable workforces need to be replaced? What happens with the investment of what employees bring, develop and implement in the organization? Should the person leaving be required to be part of the development training programs? Should tacit knowledge be elicited in new hires training programs?

In attempt to answer this question a literature review was conducted. The purpose of this literature review is to illustrate the relationship between employee's tacit knowledge and the organizations' institutional memory. I discuss the role of knowledge in organization to set the tone of this review and its conclusions. I use the science of training and learning organization as important elements to ensure that tacit knowledge contribute to the organizations institutional memory. The review differs from prior ones in that I suggest that organizations implement tacit

knowledge elicitation into an in-house training development program of high-level positions. I recommend, the use of appropriate training techniques and a learning organization environment. The review pinpoints tacit knowledge as an important element for the expansion and preservation of the organizations institutional memory. I conclude with a discussion of limitations for the proposed framework and future research indications.

Background and context: Retiree's Knowledge Adversity

The immediate motive for conducting this literature review revolves around the U.S workforces facing a high retirement predicament. In fact, it is appropriate to consider retirement as one of the more salient drivers for why organizations have to constantly rely on human capital development, procedures and transitions. As new leaders will be constantly emerging, lack of practical knowledge and knowledge of best practices is a major concern for the development of new leaders.

The Baby Boomers high retirement rate is a double-edge sword that threads organizational success. Less than a third of US organizations consider succession planning, leadership transitions or knowledge sharing important (Bell, Moyers & Wolfred, 2006). Parker (2011) found that in the United States, more than 8,000 workers retire every day and between 2006 and 2024 about 77 million workers will be retiring. Therefore, organizations are not only losing one of their best resources to help new incoming staff succeed (especially in managerial positions) but are also losing a valuable resource to help preserve knowledge gained by the organization.

The growing retiree bubble crisis, employment levels topping 94%, national educational crisis and the rapid rise of emerging market opportunities (Salas & Stagl, 2009) posts many challenging questions to be answered. These changes and rapid growth demands positions to be quickly filled (Odiome, 1987). Unquestionably this calls for organizations to quickly adapt and acquire the right set of assistance to help them respond accordingly without risking their performance.

As a result the need to invest in new leaders' talent pool arises. One of the reasons is that retirees cannot only take relevant information and knowledge, but could be taking with them, the experiences of a generation (Parker, 2011). The employees who stay may not have any experience or knowledge on what needs to be immersed by new employees. Retirees may not want or have the time to share enough important knowledge before they retire due to its rapid and continuous process but it is significantly important as the new workforce generation lacks practical knowledge important to succeed. Therefore, difficulties in the replacement of these retirees can become difficult and hard to achieve. Eventually most retirees will be replaced with a new and younger generation of leaders. The incoming employees mostly of a new generation face a new challenge as they transition in to the business world and are presently struggling to capture retiree's tacit knowledge (Parker, 2011).

Organizations' have many useful systems and ways to access information and data related to the knowledge obtained from previous individual who made it available. But, some of the more useful pools of member and networks used in the edge of chaos and are related to their tacit knowledge (Ruelas, 2002). Hedlund, Antonakis, and Stenberg (2002), defined tacit knowledge as: knowledge gained from everyday experience that has an implicit, unarticulated quality. A natural way of understanding and knowing how to proceed that comes from the unconscious nature of an individual, and acts as one measure of our ability to learn from experience. Retirees' actions channeled through their naturalistic decision making- how an individual uses his or her experiences to make decisions (Rosen, Salas, Lyons, & Fiore, 2008), places organizations at risk of losing valuable practical knowledge. The knowing in practice by Orlikowski (2002) contours the interpretation of how we view the importance of knowledge in

this review. This perspective focuses on knowledge as an ongoing flow of action that is owned by the individuals' social and physical activities in the organization environment. Knowledge processes, elements and facts are just as important as their how and why actions.

Organizations capability to learn to work through the fusses of rapid employee development helps them expand and preserve just in time knowledge demands. Organizations in the long run will be affected if they fail to understand and find ways to elicit, promote and capture tacit knowledge within their organizations context. Failure to do so can provoke some organizational difficulties: (a) it could interrupt new leader transition to the job and their effectiveness, (b) valuable knowledge pertinent to today's successful best practices is lost, and (c) organizations ability to add, expand and preserve valuable knowledge to their institutional memory.

Institutional memory as defined by Rothwell and Poduch (2004) is the specialized knowledge of multiple individuals experiences about what and how things are done to guarantee and reassure that the company's' efficiency and effectiveness is achieved. Knowledge input at the individual and collective level of all leaders of an organization generates what we referred to as the organization's institutional memory. Retirement, organizations competitive advantage and organizations dynamics are strong reasons to justify why we should focus on tacit knowledge elicitation at the individual and organizational level. Current practices like knowledge management, learning organization and the science of training help organizations' work through the fusses of rapid employee development.

THE ROLE OF KNOWLEDGE IN ORGANIZATIONS

The retirement predicament and a new generation of leaders entering the workforce bring many challenges. The millennium generation is much more informal than other generations, it acts and communicates in various informal ways. Thus making more challenging to help organizations capture, transfer and preserve knowledge. The workforce of today also confronts a coarse transition between what used to be considered an exceptional employee and what is required today to be a highly praised employee, especially for upper level positions. Competencies and skills requirements need to be transportable and transferable at a fast pace for the effectiveness of individuals' performance in organizations. To do this Smith, McKeen & Singh (2007), highlighted the need for organizations to distinguish between types of knowledge before taking action into how to transfer it, to better link their knowledge transfer initiatives for success.

Knowledge is created by the flow of information, anchored in the beliefs and commitment of its holder and is essentially related to human action (Nonaka & Takeuchi, 1995). Organizations human capital, constantly tap into their knowledge to take action within organization. The different types of knowledge floating around an organization determine what actions would be taken for an organization to succeed.

Organizations' rapid growth and change requires organizations to transfer and exploit knowledge that is embedded in routines that promote and sustain the success of the organization (Nelson, 1982). Hidding and Catteral (1998) stated that organizations ability to acquire and

apply knowledge could become the key competitive factor in this information age where knowledge is an asset. They described today's information age as one where the "key assets of a business are no longer plant and equipment, but knowledge assets" (Hidding & Catteral, 1998, p.4).

According to Ruelas (2002) integration activities that are implemented to link value either within or between organizations foster competitive advantage. Nonaka and Takeuchi are also big contributors to the idea that knowledge is a key tool to an organization's future. Hidding and Catteral (1998) added that sharing knowledge and making sure that it goes where it is needed play an important role in the organization's overall performance by Penrose (1959) also acknowledge that organizations' growth resides in their ability to share knowledge through different locations and divisions.

Choo and Alvarenga Neto (2010) reviewed hundreds of articles (over a decade of research) in order to identify the conditions that contribute to knowledge in organizations. They identified the following four dimensions: (1) Social/behavioral, social relationships and interactions based on norms and values such as; trust, care, empathy, attentive inquiry and tolerance, (2) cognitive/epistemic: The need for epistemic diversity, common knowledge or shared epistemic practices, terms and commitments, (3) Information systems/management: The use of information systems and information management processes to support knowledge-sharing activities, and (4) Strategy/structure: The need for the organization and its management to provide direction and structure for knowledge sharing and knowledge management (Choo & Alvarenga Neto, 2010, p. 596). Of these four dimensions, there is far more research on the

information systems and strategy/structure dimensions than on social behavioral and cognitive epistemic (Peet, 2012).

Toffler (1990) saw knowledge as the very essence of a company and emphasized that how knowledge is controlled and communicated affects the organization. He saw knowledge as an important source to replace other company resources. Therefore, I will introduce the concept of institutional memory and why its development is important to preserve the essence of the company. But, I will first discuss knowledge management, to give an insight into how organizations are dealing with knowledge to help the organization benefit from knowledge captured. I conclude this section explaining how training aids companies support the high demand for employees to learn and function in a variety of different environments (Pulakos, Arad, Donovan, & Plamadon, 2000). Both knowledge management and training aim to try to foster, share and maintain important knowledge that can possibly add value to the institutional memory.

Knowledge Management in Organizations

“The realization that knowledge is the new competitive resource has hit the west like lighting” (Nonaka and Takeuchi, 1995, p.7), leading organizations to gather efforts to understand, define and provide solutions to how they can best make data, information and knowledge available to the company. Organizations’ realized the importance of keeping information and data inside the organization and preserving valuable knowledge within the organization. Knowledge management was integrated as an important resource to enhance organizational performance. Knowledge management defined by Pearlson and Saunders (2010)

is a dynamic and continuously evolving process that involves knowledge generation, capture, codification, and transfer of all types of knowledge in an organization. Knowledge management practices are in charge of maintaining organizations knowledge and skills portable into the organizational culture, so that its value can be retained and shared within the company and its employees. Through knowledge interaction between the corporation's members shared information and knowledge but organization also use and relies on information systems (technologies) to make up its infrastructure.

Knowledge management practices have included systems to manage information, data and knowledge; they have done so mostly to make explicit knowledge available and easy to be reuse by organizations. Nonaka and Takeuchi (1995) described explicit knowledge as formal and systematic, easy to express and to communicate in the form of hard data (words and numbers) that any can understand. Companies manage knowledge by using Information systems that aim to capture data, information and knowledge. Technologies based systems work well with data, but are less efficient at managing information and knowledge because of its dependency to human contribution (Pearlson & Saunders, 2010).

Knowledge management practices are also concerned about the other face of knowledge (tacit knowledge) that we will discuss in a greater detail later in the review. Tacit knowledge- is subjective and intuitive nature according to Nonaka and Takeuchi (1995). For now we will refer to it as something that is not easily perceptible and it's hard to disseminate.

It is this tacit knowledge what challenges knowledge management practices. This acquired knowledge is difficult and hard to process or transmit in any logical or systematic way.

Schwartz, D. G. (2006) suggests that narrative written or oral this type of knowledge will need dialogue because gaps in comprehension will always exist.

Training Use in Organizations

In today's global economy, changes occur and require individuals to learn and function in a variety of different environments and at a much rapid pace. It is becoming more common for employees to take on a wide range of responsibilities within their same title position. The high demand for flexibility, adaptability and multitasking characteristics in employees to enhance organizations performance continues to grow. However, this new needs that will be arising hinder employees and organizations overall performance. The science of training seeks to help organizations surpass and adapt to this changes. Training is the process of acquiring new knowledge and behaviors as a result of practice, study, or experience (Kraiger et al., 1993). Constant learning is fundamental to overcome this difficulties and that is the desired outcome of training (Salas, Tannenbaum, Kraiger, & Smith-Jentsch, 2012).

As a result of the aforementioned organizational predicaments, companies have adopted training as an important tool to support organizational change, transitions and adaptation processes. "Done well, training and development can have a significant impact on organizations' bottom line" said Salas, Tannenbaum, Kraiger, & Smith-Jentsch, 2012, p.79. The dynamics of companies create the need for organizations to train their employees, so they can ensure that their employees preserve and acquire new important KSAs. In an attempt to achieve efficient work performance organizations implement and invest in training programs that can give them the ideal training, to help employees succeed when performing their jobs. In fact, most

organizations now feel the need to justify training investments in terms of organizational performance (Salas & Cannon-Bowers, 2001).

Until today many scholars have covered much ground on the importance of training development in organizations, to keep up with these dynamics of our post-industrial business world. Employees and leaders have had to undergo different types of training to be successful. Management and leadership development typically incorporate a variety of both formal and informal learning activities, including traditional training, one-on-one mentoring, coaching, action learning, and feedback (M. J. Burke & Day, 1986; Cullen & Turnbull, 2005).

U.S. firms alone spend billions in training for their employees. Training supports organizational changes and relieves tension in the adaptation processes for employees. It is vital that organizations continue to use and promote training for their staff. It is through training that organization can outlive the dynamics of businesses today and sustain their success through time. To meet these different needs that arise inside organization, training has become very important and part of businesses best practices. Training provides practical guidelines that help organizations disseminate, develop, bring up-to-date and retained employees KSA's.

Although today's global companies place more emphasis on considering employee development an important constituent for allocating money and resources, there is still much doubt as to how effective performance in employees can be successfully ensured (Salas & Cannon-Bowers, 2001). The discipline of training focuses on providing, enhancing, developing and sustaining employees KSA's. The impact of training has been shown to be very important in the past 30 years and have shown a tremendous growth in the training research field (Salas & Cannon-Bowers, 2001).

Institutional Memory- Organizations Accrued Knowledge

The Institutional memory as defined by Rothwell and Poduch (2004) is the specialized knowledge of multiple individuals experiences about what and how things are done to guarantee and reassure that the company's' efficiency and effectiveness is achieved. Coffey and Hoffman (2003) identified institutional memory loss as a worldwide concern that affect organization's ability to avoid making past mistakes and leverage accomplishments of past the employees. According to Rothwell and Poduch (2004) what has worked and not worked in the past, and the aggregated knowledge of individuals who work for a company is what constitutes the institutional memory of a company. Rothwell and Poduch (2004) saw institutional memory as "the fruits of the institution experience." (p.405).

Knowledge management adds a great amount of value to the institutional memory. Because the KM discipline makes knowledge available and accessible the memory of the organizations gains valuable knowledge. The knowledge gained by the company is acquired through each individual knowledge input to the organization (Pearlson and Saunders, 2010), making the task of developing it properly a little bit more challenging. Based on how Rothwell and Poduch (2004) described institutional memory it highlights the importance of transferring all knowledge, so that the experiences of the organization can impact future actions to be taken.

All types of knowledge floating around the company are important to the organizations effectiveness. This constant flow of knowledge is what help builds the Institutional Memory of an organization. Companies recognized the importance of preserving institutional memory to achieve competitive advantage. Yet, there are not many studies that give importance to the development of a framework for institutional memory antecedents, dimensions and outcomes.

However, with the few definitions found on the literature about institutional memory, tacit knowledge seems to be an important component of its definition. Both use past experiences for its development and both are considered valuable to organizations competitive advantage. To make up its value the institutional memory is heavily reliant on individuals and their knowledge. I conclude based on the definitions and the literature review that individuals who work for the organization are the ultimate source of knowledge for institutional memory development.

Nonaka and Takeuchi (1995) indicated that there is a widespread agreement that organizational learning is dependent of past experience, focused on developing or adapting routines, and sustained by organizational memory. Wood and Reynolds (2013) identified the importance of tacit knowledge in retaining knowledge and developing institutional memory embedded in different social networks throughout the organization.

The individual's tacit knowledge contributes to the organizations knowledge. However, this tacit knowledge of an individual has relevance only when it can be properly used for the benefit of the organization (Bhardwaj & Monin, 2006). Nonaka and Takeuchi (1995) indicated that "Individuals personal knowledge is transformed into organizational knowledge that is valuable to the company as a whole" (p. 13). Therefore, lost tacit knowledge from retiring leaders takes valuable elements of a strong institutional memory development. Failure to capture relevant and appropriate tacit knowledge from the individual can cause two organizational difficulties. It could interrupt new hires transition to the job and the organizations ability to preserve and add valuable knowledge to their institutional memory.

TACIT KNOWLEDGE LITERATURE REVIEW

The front matter to determine how this literature was going to be conducted was determined through the adversities that the definition of tacit knowledge at the individual level up-brings. Tacit Knowledge is embedded in the background and experience of an individual. It is seen as being relatively more difficult to access and transfer because it cannot be separated from the individual who possess it. (Smith, McKeen & Singh, 2007). Since organizations are created and managed through individuals, I narrowed the scope of my search to findings related to the contribution of individuals' tacit knowledge in relation to the organizations' success.

In an effort to guarantee that this review was well sustained and comprehensive, I conducted a computerized search via PsychInfo, Business Source Premier and Google Scholar databases using applicable key words and phrases such as: (1) Institutional memory (2) knowledge management (3) Learning organizations (4) Training, and (5) Tacit knowledge transfer and sharing. A total of 80 articles were analyzed and reviewed. An excel data spreadsheet was created to consolidate and demarcate the reviewed journals' key findings in relation to the scope of this review.

Máynez Guaderrama, Arroyo, Suárez, and de la Parra, (2012) identified that tacit knowledge transfer studies are influenced in relation to: (1) the individual (2) organizational concerns, and (3) a mixed of the two. This papers literature review aims to study tacit knowledge at the organizational level rather than at the individual level. Understanding its definition at the individual level needs to be well interpreted to further analyze it at the collective level.

According to Hedlund et al. (2002) tacit knowledge is knowledge gained through every day experiences that has an implicit, unarticulated quality. Nonaka and Takeuchi (1995)

described tacit knowledge as personal, context-specific, hard to formalize and communicate. Parker (2011) described tacit knowledge as the use of experiences to modify actions, which are often scattered around the organizations environment in the minds of individuals who are personally involved in the experience. These definitions provided by this different authors, share the idea that tacit knowledge it's ingrained in individuals and drives their actions. This knowledge is acquired through experience and develops on an even greater amount of experiences. Implying that tacit knowledge develops and it's acquired through different social activities, interactions in different environments and with different people at different points of life.

Other opinions such as Bhardwaj and Monin (2006) bring up that tacit knowledge is an iceberg that has some parts above water and other parts hidden under water. This analogy describes that only 10 percent of tacit knowledge is made known and the remaining is hidden. Therefore, an understanding of the impactful role of tacit knowledge at the organization level should be mentioned more often in the literature. It consists of experiences, beliefs, and skills (Pearlson & Saunders, 2010), consequently related to organization diverse behaviors and concerns. It is important to first understand that tacit knowledge operates on the following different threads:

Psychological thread. The psychological thread in an organization is the sum total of all experiences which an individual goes through in workplace. “Different individuals experience organizations in different ways depending on their psychological development” (Gabriel, 1999, p. 78).

Intellectual thread. It consists of all the intellectual tools used for processing information at individual level. These include skills or crafts which are very hard to pin down as well as highly subjective and personal insights, intuitions, hunches and inspirations derived from bodily experience, beliefs, perceptions, ideals, values, emotions and mental models. Master craftsmen or three-star chefs develop a wealth of expertise at their fingertips as a result of experience. However, many times they have difficulty in articulating the technical or scientific principles behind what they know (Takeuchi, 1998).

Knowledge thread. The knowledge thread is sum total of all the knowledge which an organization possesses. It consists of both the ontological and epistemological aspects of knowledge. The awareness of tacit knowledge can be created with the help of creating learning histories (Lubit, 2001).

Functional thread. The functional thread is the way all the functions in an organization are carried out. Lam (2000) combines the action orientated and mediated notions of tacit knowledge, arguing that personal tacit knowledge can be regarded as embodied knowledge whereas shared/mediated tacit knowledge is embedded knowledge. Oticon, Denmark has created a “spaghetti organization” where the knowledge workers have no fixed job descriptions but work entirely on project basis. This makes the learning experience of workers more holistic (Sveiby, 2001).

Social thread. The social thread consists of all social processes and social groupings in an organization. A number of studies have focused on the social aspect of tacit knowledge. Pleasants (1996, p. 249) sees tacit knowledge as an artifact of social action or practical consciousness. This view finds support in Collin’s (2001) study that continuous social interaction

(towards) routine makes the less obvious more obvious. According to Collins (2001), tacit knowledge remains tacit within a certain community. For example, in a community of scientists the tricks of the trade are exchanged which lead to enhanced awareness of the practice but tacit knowledge in action never gets reflected in formulae or journal articles (Collins, 2001, p. 72).

Cultural thread. The cultural thread consists of overall culture of an organization. The depth of influence that tacit knowledge has in shaping the knowledge base of an organization and the way it is formed and used is determined by the broader institutional context (Boisot, 1995a, b; Lam, 2000). Hewlett Packard is famous for its overall collaborative culture that encourages knowledge sharing and risk taking at all levels (Sveiby, 2001).

Tacit knowledge is fundamental to leveraging the overall quality of knowledge (Goffee and Jones, 2007) as Polanyi (1966) puts it, “we can know more that we can tell” (p. 4). In the knowledge creating company by Nonaka and Takeuchi (1995) tacit knowledge was segmented into a technical and cognitive dimension: The first is the technical dimension, which encompasses the kind of informal and hard-to-in-down skills captured in the term “know-how”.

At the same time, tacit knowledge contains an important cognitive dimension. It consists of schemata, mental models, belief, and perceptions so ingrained that we take them for granted. Tacit knowledge is created in a specific and practical context. It is our experience and needs practice (Nonaka & Takeuchi, 1995). From these proposed views this review infers that individuals’ need to make their skills portable. Portable skills are taking what you have learned and done in the past and showing a new employer or sector how they can be of value here and now.

Tacit knowledge resides in various individuals of an organization its eccentric use and nature becomes a valuable source for valuing an organization's intangible knowledge asset. This aggregated knowledge of all individuals becomes directly important to the organizations success. At the collective level, it was found that tacit knowledge has been used as a valuable source for valuing an organization's intangible knowledge assets. Since the early 1990's the level of tacit knowledge transfer correlates positively with innovation capability and organizational performance (Parker 2011). Organizational studies have focused on the role of this intangible knowledge asset and how they can develop and manage resources based on this type of knowledge in relation to competitive advantage (Bloodgood & Morrow, 2003).

Companies allocate funds to research how tacit knowledge of individuals' in organizations is important to their success in today's competitive market. It's a source of sustainable competitive advantage because firm's competitors find it difficult to imitate and copy (Ambrosini and Bowman, 2008). They often do not "know what they know" and cannot share their tacit knowledge with others (Polanyi, 1966). Few studies have explored the efficacy or impact of transfer initiatives that can be used for identifying, sharing and expanding upon leaders' tacit knowledge during critical periods of leadership transition and beyond. Given the fact that leadership transitions require considerable knowledge sharing during relatively short periods of time (Ruggles, 1998; O'Leary, 1998; Droege and Hoobler, 2003; Dalkir, 2005), this is a significant gap.

Tacit knowledge is related to experience and it makes sense to provide opportunities for individuals to capitalize on their experience. Because experience is arguably a very important source of learning for managers and leaders (Hedlund et al., 2002), it makes sense to try to

integrate training and KM systems to elicit tacit knowledge sharing. Nonaka and Takuechi's model of knowledge creation (SECI model) suggests that tacit knowledge could be communicated, through socialization, externalization, internalization and combination. Bennet & Bennet (2008) also suggest that embedding tacit knowledge throughout the organization by educating employees about tacit knowledge and its importance for the organization can be beneficial.

Since tacit knowledge is an abstract concept difficult to codify, implanted and the culture and history of organizations it involves that individual continually involve in practice of knowing (Ismail, 2012). There seems to be an excessive dependence on information technology that has led to the mismanagement of tacit knowledge (Johannessen et al., 2000) and therefore making its transfer harder. There is a need to find out ways of activating the dormant tacit knowledge of employees to build a knowledge reservoir that would be able to capture tacit knowledge of all employees. The interaction of tacit knowledge with important subsystems in an organization thereby shaping its knowledge base can be further studied using other research methods. (Bhardwaj & Monin, 2006). Developing the right understanding of tacit knowledge and its transfer provides a better view for those interested in developing techniques to transfer it. However, organization's promoting the transfer of this important knowledge need to further analyze how to create the right environment at the organizational level, so that it could be transferred from individual to individual on a continuous basis. There has been reported evidence that knowledge driven organizations, that are able to preserve human knowledge capital will be the ones that ride lasting competitive advantage (Snyder, McManus & Wilson (2000). This review explains role of tacit knowledge embedded in different leaders' of the organization

as a forum concept for institutional memory expansion and preservation. Newly educated leaders will be emerging but without a vast amount of important techniques that older generations' were taught. This may include techniques, KSAs and even tricks that have been proven to work by today's growing and industrialized business world. As stated by Parker (2011), "Educational, governmental and organizational leaders are concerned with transferring experiential knowledge from retiring workers to new workers".

Difficult to Transfer

One of the hardships of making use of this valuable tacit knowledge is the ability to make it available to be re-used or taken advantage of. Because of its complex definition and nature it's hard to transfer from one individual to another. Since tacit knowledge is seen as critical to the success of groups and organizations (Drucker, 1991), recent scholarly work has focused on how organizations can create conditions that enable knowledge creation, i.e. "the process of making available and amplifying knowledge created by individuals and connecting it to an organization's knowledge system" (Nonaka et al., 2006, pp. 1179-1193). The ongoing review and evaluation of elicited tacit knowledge from the individuals helps the individual identify knowledge that was missing from the first time he or she was asked to recall and could easily either fill the gap or identify other person who can fill that knowledge missing (Coffey & Hoffman, 2003). Visual concept maps, images, drawings, descriptions contribute to final knowledge retrieval (Coffey & Hoffman, 2003). Harlow (2008) found, that tacit knowledge has been used since the 1990's as a reliable source for valuing an organization's intangible knowledge asset. There is a need to mobilize existing informal peer-to-peer knowledge transfer mechanisms in the workplace to

facilitate the flow of knowledge. Tacit knowledge flow and awareness within leaders and employees of organizations contribute enormously to their success. Experts and leaders within most fields possess essential knowledge that is largely tacit and unconscious in nature.

Although several studies have explored methods of tacit knowledge transfer for competitive advantage (Criscuolo et al., 2009; Arikan, 2009; Davis, 2009; Lichtenthaler, 2009), they have been limited in scope and context. Most research focuses on the limitations of information systems for fostering knowledge transfer (Linde, 2001; Stenmark, 2000). Different opinions have arisen such as Gherhardi and Nicolini (2000) who propose that tacit knowledge originates in social participation in a community of practice, which they refer to as tacit knowledge in action.

Since tacit knowledge is an abstract concept difficult to codify, implanted and the culture and history of organizations it involves that individual continually involve in practice of knowing (Ismail, 2012). There seems to be an excessive dependence on information technology that has led to the mismanagement of tacit knowledge (Johannessen et al., 2000) and therefore making its transfer harder. There is a need to find out ways of activating the dormant tacit knowledge of employees to build a knowledge reservoir that would be able to capture tacit knowledge of all employees. The interaction of tacit knowledge with important subsystems in an organization thereby shaping its knowledge base can be further studied using other research methods (Bhardwaj & Monin, 2006). Tacit knowledge at the organization and management level needs to be discussed and studied during human capital development trainings for new employees and those who are moving up the ladder. Developing the right understanding of tacit knowledge and its transfer provides a better view for those interested in developing techniques to transfer it.

However, organization's promoting the transfer of this important knowledge need to further analyze how to create the right environment at the organizational level, so that it could be transferred from individual to individual on a continuous basis. There has been reported evidence that knowledge driven organizations, that are able to preserve human knowledge capital will be the ones that ride lasting competitive advantage (Snyder, McManus & Wilson ,2000).

This review explains role of tacit knowledge embedded in different leaders' of the organization as a forum concept for institutional memory expansion and preservation. Newly educated leaders will be emerging but without a vast amount of important techniques that older generations' were taught. This may include techniques, KSAs and even tricks that have been proven to work by todays growing and industrialized business world. As stated by Parker (2011), "Educational, governmental and organizational leaders are concerned with transferring experiential knowledge from retiring workers to new workers".

For this reason tacit knowledge is thought to exist on a collective level: action is always social. Some researchers are concerned with the obsession of knowledge management experts to make tacit dimension of knowledge explicit. It is more important to manage tacit knowledge rather than making it explicit (Tsoukas, 2002). Concerns are also voiced with regard to the need for order and coordination to emerge spontaneously in the management of tacit knowledge instead of being imposed artificially by the top management (Kreiner, 2002). Tacit knowledge requires deep levels of exchanging communication relations and interactions (Ismail 2012).

The concept maps allow experts to define boundaries and represent a clear indication of the relative importance of these concepts. Concept maps are an effective way to ensure a comprehensive coverage. Personal experiences gained through different situational scenarios,

transmitted experiences and knowledge gained throughout the organization confirm the term institutional memory. Implanting, sustaining and cultivating tacit knowledge into organizational processes and training programs can create a potential capacity of competitive advantage that its competitors will be unable to duplicate (Parker, 2011).

It seems to be logical to say that this type of knowledge needs to be demonstrated, whether verbal or written. When leaders move to another position or depart an organization altogether, the loss of their essential “know-how” is often quite costly, especially for non-profit organizations. In a 2008 survey of employee turnover in the non-profit sector, 81 percent of respondents reported that their organization was currently looking to fill a management or leadership position (see OK Report, 2008).

Storytelling has figured as an important catalyst and tool for design and communication avenues, to transfer information. (Erickson, 1995). In order to capture the potential of storytelling it is very important to have rich and powerful knowledge architecture to capture it (Reamy, 2002). Lloyd (2000) found that storytelling appeared to be a central mechanism in the development of a common language in design teams. In addition to the imaginative and creative component of stories they also have a scientific quality when used as a research tool in academic research. As Hirsch and Rao (2003, p. 137) put it: The story is an empirical account of what goes on, of what went on. It's based upon data. It has to be justified by the facts and by the ability of different people to see the same facts – all of the standard criteria for scientific enquiry. What we make of that story, the theoretical spin we give to it, that's something changeable.

After reviewing several articles on tacit knowledge and putting the information together to understand the definition of tacit knowledge and its difficulties to be transfer. I move now to

discuss its role at the organization level to provide a better understanding of why organizations awareness of its value and how they can fully benefit from this knowledge if it's elicitation is fostered and nurtured in their environments.

The role of tacit knowledge in organizations

Tacit knowledge as we mentioned before consists of experiences, beliefs, and skills (Pearlson & Saunders, 2010) of individuals in an organization. Consequently it establishes an immediate relationship with the organizations diverse behaviors and concerns. Developing the right understanding of tacit knowledge role within organizations' setting and the importance of capitalizing on its use and its sharing, provides a better view for how to develop techniques to transfer it into the organizational context. Organizations' promoting the sharing of this important knowledge need to further analyze how to create the right environment at the organizational level, so that it could be transferred from individual to individual on a continuous basis.

There has been reported evidence that knowledge driven organizations that are able to preserve human knowledge capital, will be the ones that ride lasting competitive advantage (Snyder, McManus & Wilson (2000). This review explains role of tacit knowledge embedded in different leaders' of the organization as a forum concept for institutional memory expansion and preservation.

Organizational studies have focused on the role of this intangible knowledge asset and how they can develop and manage resources based on this type of knowledge in relation to competitive advantage (Bloodgood & Morrow, 2003). The tacit knowledge of individuals' in organizations is important to their success in today's competitive market. It's a source of

sustainable competitive advantage because firm's competitors find it difficult to imitate and copy (Ambrosini and Bowman, 2008).

Harlow (2008) found that tacit knowledge has been used since the 1990's as a reliable source for valuing an organizations intangible knowledge asset. There is a need to mobilize existing informal peer-to-peer knowledge transfer mechanisms in the workplace to facilitate the flow of knowledge. Tacit knowledge flow and awareness within leaders and employees of organizations contribute enormously to their success. Experts and leaders within most fields possess essential knowledge that is largely tacit and unconscious in nature. They often do not "know what they know" and cannot share their tacit knowledge with others (Polanyi, 1966).

Since tacit knowledge is seen as critical to the success of groups and organizations (Drucker, 1991), recent scholarly work has focused on how organizations can create conditions that enable knowledge creation, i.e. "the process of making available and amplifying knowledge created by individuals and connecting it to an organization's knowledge system" (Nonaka et al., 2006, pp. 1179-1193). Bhardwaj and Monin (2006) brought up that tacit knowledge is an iceberg that has some parts above water and other parts hidden under water. Their analogy describes that only 10 percent of tacit knowledge is made known and the remaining is hidden. Therefore, an understanding of the impactful role of tacit knowledge at the organization level should be mentioned more often in the literature.

Literature Conclusions

This type of knowledge may play an important role in the strategic planning performance of managers and professional staff (Holste & Fields, 2010) Within public and non-profit sectors,

results from the field of education (including higher education) showed the highest levels of concern with regards to the soaring cost of management and leadership turnover (see OK Report, 2008). Parker (2011) postulated that organizational leaders are facing challenges with retirement rates and selecting new leaders who can guide the organizations through hard times. As stated by Poindexter (2008), 90% of eligible federal executives are now retiring. The magnitude of the retirement crisis numbers is enormous, affecting 77 million of retiree's and organizations (Holzer, 2005).

New educated leaders will be emerging but without a vast amount of important techniques that older generations' were taught. This may include techniques, KSAs and even tricks that have been proven to work by today's growing and industrialized business world. As stated by Parker (2011), "Educational, governmental and organizational leaders are concerned with transferring experiential knowledge from retiring workers to new workers". Perhaps the numbers suggest that it will be valuable and noteworthy, to find how the qualifications, characteristics, skills and decision making processes that these retirees are currently using can be passed on through the use of training, learning organizations environments and steering organizations to elicit tacit knowledge, rather than just emphasizing its transfer to explicit knowledge. Based on this literature review, I conclude that the individuals' tacit knowledge is a valuable, complex and necessary contributor to the institutional memory of an organization. Thus essential for the knowledge driven organizations, their competitive advantage concerns and ability to adapt to continuous change.

PROPOSED TACIT KNOWLEDGE ROLE

Organizations are continuously managed by their human capital collective tacit knowledge within the organization. After reviewing the literature and analyzing the importance of managing knowledge for organizations advantages, I saw the need to get the most out of the institutional memory to battle with the threats of organizations amnesia when important leaders leave. Knowledge management aids the institutional memory on the recollections of its memories through collected explicit knowledge, information and data that can be easily retrieved to be use. I propose we treat this explicit knowledge, information and data as types of memories that build the institutional memory. However, tacit knowledge is a huge contributor to the institutional memory because it enables the organization to use this type of knowledge for future resolutions. Just like individual take many actions based on their experiences organizations should be able to simulate this process.

I propose the use of tacit elicitation to aid the development and preservation of the institutional memory. Because organizations are continuously managed by their human capital collective tacit knowledge institutional memory development is significantly important for their future success. Institutions memory needs to be able to collect and preserve tacit knowledge that will enable them to reuse its own best practices and experiences when need it. The right way to think of collective tacit knowledge is as something that human individuals, and only human individuals, can acquire, because of their special and continual access to the location of the knowledge which is the social collectivity (Collins 1998). Because this individual's knowledge is what develops, creates and implement theories and ideas to mobilize organizations actions at

different levels, there needs to be a place within the organization that stores knowledge just like our human memory.

“Institutional memory” is where all this valuable types of knowledge that ultimately make the organization function on a daily and long-term basis are stored. My drive to propose this perspective arise from a personal experience that I would first share; to then move into how tacit contributes enormously to the development, expansion and preservation of organization institutional memory. I provide a few ways to help elicit tacit knowledge and use training and learning organizations to help add value to organizations institutional memory. In Colombia we would call a person with strong tacit knowledge “street smart”. The term is more widespread and is not only used in Colombia. However, I will refer to the term from a Colombian viewpoint. The example is provided to show the relevance that tacit knowledge has on the individual, the development and sustainability process of a company. Being “street smart” helps a lot of small companies in Colombia sustain their business. Most of the small businesses in Colombia are passed down from generation to generation. Although training is not often used in small family businesses, families pass along their tacit knowledge through mentoring, shadowing, storytelling, and constant repetition of the importance of soft skills. Soft skills are the opposite of your KSA’s. We are taught to use our own tacit knowledge as the starting point to capture and understand new knowledge. Conceptualizing new knowledge with previous tacit knowledge is elicited through the culture. Emphasizing the importance of expertise and seeing tacit knowledge as the only way to sustain a business, could be the reason why these small businesses in Colombia are successful. However, this is not the only reason why these businesses succeed, and it might be due to culture and demographics. It is an observation of my

own culture and how their approach to pass on knowledge can be beneficial to transfer of training. Despite all the attention by leading observers of the concept of tacit knowledge, none of them has really examined the possibility of training individuals based on their tacit knowledge.

Tacit Knowledge Contribution to Institutional Memory

The extensive literature on individuals' tacit knowledge and the importance to capture their tacit knowledge needs more research on the role that it has within organizations. Learning organizations have an interesting approach on how to make knowledge flow within the organizations networks. Knowledge management along with its expert systems and technology advances have so far make the flow and dissemination of knowledge easier for organizations. The science of training has great insights to aid organizations train employees on different kind of knowledge, skills and abilities. The science of training provides organizations with best practices to accommodate any kind of training into organizations.

Other research done on tacit knowledge until today focuses on how to capture tacit knowledge to then converted into explicit knowledge that can be reused. Tacit knowledge elicitation and internalization within the company allow organization to stay competitive. I not only suggest that it promotes a learning organization but it adds value to the institutional memory. Companies in japan believe that new and proprietary knowledge can be created if the learning that takes place from others and the skills are elicited and shared (Nonaka & Takeuchi, 1995). According to Pearlson and Saunders (2010) we can capture tacit knowledge through mentoring, videotape narratives, good story telling, on the job training, metaphors, analogies and models. Nonana and Takeuchi (1995) suggest that we pay attention to how figurative language

and symbolism is used to express what seems inexpressible. We want to make sure that this is kept to simple/universal terms. We want other individuals who have different experiences to still understand. Second, organizations need to keep in mind and be aware that our personal knowledge has to be shared and disseminated with others.

Metaphors and analogies are used to express what individuals cannot put into specific words. However, analogies are used to clarify differences and similarities. “Used to express what they know but cannot yet say” (Nonaka and Takeuchi, 1995, p. 13), thus provoking the individual disseminating the knowledge to tap into his or her tacit knowledge. Knowledge can be amplified and crystallized at the group level through dialogue, discussion, experience sharing and observation (Nonaka and Takeuchi, 1995, p. 13).

Storytelling has figured as an important catalyst and tool for design and communication (Erickson, 1995). In order to capture the potential of storytelling it is very important to have rich and powerful knowledge architecture to capture it (Reamy, 2002). Lloyd (2000) found that storytelling appeared to be a central mechanism in the development of a common language in design teams.

Visual concept maps, images, drawings, descriptions contribute to final knowledge retrieval (Coffey & Hoffman, 2003). The concepts maps allow experts to define boundaries and represent a clear indication of the relative importance of these concepts. Concept maps are an effective way to ensure a comprehensive coverage. The ongoing review and evaluation of elicited tacit knowledge from the individuals helps the individual identify knowledge that was missing from the first time he or she was asked to recall and could easily either fill the gap or identify other person who can fill that knowledge missing (Coffey & Hoffman, 2003).

Since the institutional memory of an organization is the memory of past experiences, the process of eliciting and sharing tacit knowledge of all individuals within an organization contributes to its development. By developing and expanding the institutional memory the organization will gain valuable information to gain competitive advantage.

Suggested Mediator & Moderators for Contribution

The framework is rooted in the importance of capturing retirees' tacit knowledge and, the organizations difficulties to foster and elicit tacit knowledge. Next, I will describe the relationship between tacit knowledge and institutional memory. The model highlights training as mediator between tacit knowledge and institutional memory, to aid organization in developing and preserving their institutional memory. Moderators are also introduced between individual tacit knowledge and training, and between training and institutional memory. These are conditions are suggested to allow the organization to successfully preserve its institutional memory.

Senge (1990) argued that for an organization to be proficient in learning it had to have both a generative and adaptive learning capacity to have sustainable competitive advantage. Synthesizing and using the tacit knowledge of the individuals of an organization, trainees and the trainers to create the development training might be effective. Nonaka and Takeuchi's model of knowledge creation can be used as part of the design of a training program to help elicit and disseminate tacit knowledge into the organization. These four modes presented by Nonaka and Takeuchi (1995) socialization, externalization, combination and internalization represent the capability of a company as a whole to create new knowledge, but most important an

organizations capability to disseminate this knowledge through the organization, and embody it in systems.

Training and development activities allow organizations to adapt, compete, excel, innovate, produce, be safe, improve service, and reach goals. In the United States alone, organizations spend about \$135 billion in training individuals per year (Patel, 2010). For organizations learning is the desired outcome of training. Therefore, its process is used to help individuals of acquire new knowledge and behaviors as a result of practice, study, or experience. It involves relatively permanent changes in cognition, behavior, and affects (Kraiger et al., 1993). Therefore, appropriate training techniques could be integrated to elicit and capture tacit knowledge. Training is an important piece to retaining tacit knowledge. The implications that arise from this thesis are purposely discussed to guide future empirical training research. This review encourages business and training experts to embed tacit knowledge into the organizations' environment, to preserve institutional memory. Organizations need to pay more attention and focus on subjective insights, intuitions, and hunches that are gained through the use of metaphors, pictures or experiences (Nonaka & Takeuchi, 1995). Eliciting and building awareness of tacit knowledge in the organizational environment through training could possibly provide effective practical guidelines for transfer and sharing of tacit knowledge within organizations.

Training has its own best practices and guidelines to guarantee its success. Training experts rely on training needs analysis to find out how the appropriate training needs to be designed, developed, implemented, delivered and evaluated. Training is not just the context of what needs to be taught to the trainees. To the contrary training provides organizations with

guidelines and best practices to enhance employee performance. “training needs analysis” (i.e., catalogued as the first step in training development focused on the process of deciding who and what should be trained (Salas & Cannon-Bowers, 2001). Training needs analysis is an important evaluation that needs to be conducted to obtain a better quality of transfer of knowledge following training.

Facilitating a learning environment is fundamental for the tacit knowledge to successfully contribute to the institutional memory. This review standpoint heavily relies on the importance of social interaction for tacit knowledge to have valuable usage for the advantage of organizations. Since, KM (knowledge Management) is constantly contributing with ideas and systems to preserve institutional memory. A new focus should be directed to use learning organizations environments as a tool to leverage and elicit tacit knowledge in the every day to day basis.

Organizations have acknowledged the need for learning organizations. Learning organizations research studies is on the rise. It seems to be influenced by the constant organizational changes that require constant flow of learning to enhance organizational effectiveness. The widespread view that organizational learning is an adaptive process of change, comprise of past experiences, developed and modified routines, and reinforced by organizational memory (Nonaka & Takeuchi, 1995) presents the need for organizations to adopt and implement learning as part of their organizational culture.

In the face of constant change in organizations where individual ideas and actions interact freely create day-to-day activities. Consciously or subconsciously all organizations create this day-to-day activities that conform the organizational culture; this activities often are elicited on a day-to-day basis by employees and the organizations environment affects the organizations at

different levels. Therefore, organizations need to be capable of capturing knowledge that is detrimental to the success of the company and learn to create an environment that supports and promotes continuous learning. Participation, cooperation, and communication are some of the important drivers for such a culture (Ashby & Pell, 2001).

Wherever the knowledge is situated, contributors need to make an effort to justify and articulate this knowledge in which they are involved. In an organization less structured where learning is part of its organizational culture, you will find that social reasoning for particular activities and a high volume of informal communications is accepted (Coopey, 1995). Enabling the justifying sources for knowledge to be shared and capture by participants of a learning organization is key to developing and preserving the institutional memory. “Interaction facilitates the transformation of personal knowledge into organizational knowledge “(Nonaka and Takeuchi, 1995, p.13)

Although there seems to be a continuous need for organizational change and this has been the central concern of organizational learning theorists and training experts, according to Nonaka and Takeuchi (1995), there is also a consistent claim that not all organization are learning organizations (Coopey, 1995) until todays date and there is some debate in the literature of organizational learning as to why this happens. Nonaka and Takeuchi identified “organizational learning as an adaptive change process that is influenced by past experience, focused on developing or modifying routines and supported by organizational memory” (p.45). Because organizations constantly undergo changes the need for training has become an important tool for maintaining it and its culture. Formal and informal learning activities in organization are

strategic for a learning organization to evolve. To maintain our focus we will focus on the role of informal learning in organizations.

Japanese managers highlighted the importance of direct experience, trial and error and using our body and mind for learning (Nonaka & Takeuchi, 1995). Participation, cooperation, and communication are some of the important drivers for learning organizations (Ashby & Pell, 2001). Stenmark (2000) findings comply with this review benchmarks to propose that tacit knowledge elicitation within the organization foster competitive advantage. Stenmark's view focuses on user-to-user, unlike agent-based retrieval systems that focus on user-to object or user-to-information objectives. Like Stenmark's I propose that organizations adopt tacit knowledge and use it to make it tangible in an organizational community and setting. The transfer of this knowledge is important but does not necessarily need to be transferred into explicit form, to be retrieved or be of use to the organization.

SUGGESTED PRACTICES

Tacit Knowledge in New Hires Development Programs

Training can be defined as the systematic acquisition of knowledge; skills and attitudes that together lead to improved performance in a specific environment (Salas et al., 2006)

I suggest that in order for this perspective to work at the managerial level (leader roles) tacit knowledge elicitation needs to occur at some level within organizations. Based on what it's known about the importance of using training and the proposed standpoint of tacit knowledge contribution to institutional memory (See. *Figure 1*), This could be undertaken through eliciting tacit knowledge at an internal human capital development-training program.

The role of tacit knowledge in organizations can be used in applied practices through the awareness of tacit knowledge in employee development programs. Tacit knowledge elicitation at the employee development program enables the organization to leverage tacit knowledge as a strategic tool to build up new hires performance. Most companies use training programs to accommodate new hires into their new roles within the organization. But, sometimes these trainings fail to provide trainees with important specific knowledge from past employees (our retiree's). Transitioning could be easier if both the person training and the trainee focus on their tacit knowledge and the strategies to elicit it.

The suggested practice should be implemented at the leaders of the company level and in an in-house training development program. Because training is expensive, its use should not be

for all employees. This suggested practice aims to help organization preserve important knowledge every time an employee is replaced, in an effort to help sustain organizations competitive advantage.

Tacit knowledge awareness and elicitation at the training can assist retirees who are leaving and struggle to share their tacit knowledge, and the incoming leaders who struggle to capture tacit knowledge. Organizations able to develop a training program focused on nurturing tacit knowledge for internal use with organizational learning environment as a moderator help support their institutional memory.

A well-structured organizational training program that elicits awareness of tacit knowledge from the experts and non-experts (novices) can help them make sense of others and their own experiences. Knowledge from the expert that is tacit can be elicited and shared, and at the same time the trainee can also tap into his previous experiences to understand and relate to the experts knowledge. I suggest the program engage trainees in the use of conceptual maps and previous experiences.

The program design should also implement the strategies, best practices and literature of all the approaches discussed in this review (organizational learning, training, knowledge management and strategies to elicit tacit knowledge). Finally, I suggest the development of a training program that elicits and fosters tacit knowledge during the transition and replacement process of new employees in the organizational setting. This suggested practice should help the organization preserve the institutional memory conformed by their old and new leaders to sustain competitive advantage. The objective of the training program is to help organizations speed new hires transition into their new jobs while capturing important tacit knowledge from the leader.

According to Coffey and Hoffman (2003) the problem is not that the experts knowledge is not available to capture but that someone elicit them to think about it and take the initiative to do it in a righteous way. Using this training development program when important leaders who retain important knowledge need to be replaced can help preserve institutional memory, as well as the transfer of tacit knowledge from an individual to individual.

Proposed “know-why” reference guide

Tacit knowledge is commonly called the “know-how” (Brown and Duguid, 2001) that gives the necessary background to understand explicit knowledge (Harvey, 2012). Based on this review and the proposed standpoint, I would like to propose a method that aims to preserve the institutional memory of small intern department using tacit knowledge elicitation to capture tacit knowledge to help the receiver of this knowledge understand the content and when to apply it. The idea is to help: (1) elicit tacit knowledge relevant and critical to complete a task from the expert, (2) capture causal and condition knowledge from the leader, and (3) make it part of the institutional memory, so that I can be reuse. The aim is to (a) elicit tacit knowledge sharing between the expert and the incoming leader, (b) present a natural incentive to do so through questions about relevant personal experiences, (c) target the why things were done in particular way, and (d) provide the incoming leader with clear past experiences used for successful performance, for a better understanding of the know-how. This why method can elicit the interest of the expert to tap into his/her experiences, techniques, documents or references that represent the why of his actions. The development of the reference guide based on a why rather than a how can aid the new expert find the otherwise unknown knowledge from the previous

expert. The use of this guide from the new expert can elicit him/her to use his/her own tacit knowledge in relation with the previous expert knowledge. The “know-why” reference guide suits and builds up on Nonaka and Takeuchi (1995) knowledge creation perspective.

Currently the company possesses an Interns’ Reference Guide of how to do things for Dr. Mimi Hull & Associates. The company developed the know-how reference guide that explains step by step how to perform several tasks. During the interns training, informal learning strategies such as: mentoring, shadowing, on-the-job training and coaching occur. However, like most of the transition trainings of organizations it is design to introduce you to guidelines, procedures, manuals, daily activities and how to do different tasks to fulfill the job requirements.

The load of information becomes hard to remember and not very easy to recall once the old intern group leaves. The interns who leave are the source of information and innovation of how things are done up to a certain point. I as a new intern along with the new intern group struggled to preserve what had been in place. Therefore, the organization was struggling to keep their leaders tacit knowledge and the institutions memory was failing to capture practical and experience knowledge.

Developing a “Know-Why “reference guide during the transition of one intern group to the other strived to elicit relevant and critical tacit knowledge from the leaders (providers) that will enable the new employee (receiver) not only know how to complete a task but understand why: (1) the current methods are been used, and (2) why the organization decided to implement it (See *Figure 2*). These are important for the incoming leader performance and acts as a source to transfer critical tacit knowledge used to perform a specific task to the incoming leader. Eliciting the recall of past experiences that help the current leader decided on what action can

help the new incoming leader have a smoother and more effective transition. It can also provide an avenue for knowledge-creation.

The reference guide can be used as a source for communicating knowledge from an old employee to a new employee during the training and after the training. Because it's captured and it's part of the institutional memory this reference guide enables the new transitioned leader to tap on past experiences from other experts that are valuable. Rather than starting from scratch the reference guide gives valuable information and acts like an educational and mentor book.

The method uses a codifying technique that would have to be used by the current leaders of the company to capture their individual tacit knowledge and as a result the organizations tacit knowledge. The idea is to convert knowledge into information that can be use as a why-to reference guide rather than a how-to reference guide. The objective is to transform knowledge into information and information to data, to support organizational institutional memory. It is important to remember that tacit knowledge elicitation needs to be part of the process.

Tacit knowledge transfer strategies act a modulator of this proposed why-to reference guide (1) Categories to be used (e.g. knowledge that the company wants to preserve), (2) describe the objective of the system in place (3) describe the reason why is used worldwide (4) describe the reason why the company uses it (5) describe why you currently used the method and why you choose to implemented (6) Describe the situation the company was at, when it decided to adopt the strategy, idea, program, etc. (7) use analogies, metaphors or worldwide known concepts to give meaning to the tasks.

This reference guide acts as a why-to rather than a how- to guide, that companies could use to aid their knowledge management and organizational institutional memory. It is a way of

making the current leader dig into their tacit knowledge, and expertise and transforming it into information that has its own character. It will not specifically aid transfer of all tacit knowledge; since most of it is unconscious to the individual but it is a task that can elicit tacit knowledge awareness and sharing.

The reference why-to guide will help new employees ease their transition into the organization. Most guides left to guide new employees through the transitioning process are full of information and data that can become overwhelming when the person who was in charge is no longer available to explain. It is true that new hires will be able to understand the information and will now know how to solve many of the mishaps they encounter. However, the reference guide does attempt to help the new hire understand why things were done in specific and certain ways. It tries to preserve some of the style to take “action” of the past employee. Therefore it adds value to the institutional memory and can be used to convert tacit knowledge to explicit knowledge.

CONCLUSIONS

The review outlined provides a useful insight about how tacit knowledge contribution to the development and preservation of institutions memory can reduce the risk of organizations dependency on important individual's tacit knowledge. The review reveals the importance of building, expanding and preserving the institutional memory by activating the dormant tacit knowledge of employee for the benefits of the organization. The suggested practices presented in this review are methods that organizations can use as tools for institutional memory development, expansion and preservation. Trainings for new leaders and those who are moving up the ladder can be costly but can be addressed by human capital development trainings and implemented into the organizational culture as in-house trainings. The introspective analysis and reflexive questioning of the "know-why" for experts to develop the reference guide can elicit a significant amount of experience in reference to what helps them succeed in the execution of their roles. The ongoing elicitation of tacit knowledge from individuals can help them identify knowledge that was missing from the first time he or she was asked to recall and could easily either fill the gap or identify other person who can fill that knowledge missing (Coffey & Hoffman, 2003).

However, in order to expand the knowledge reservoirs, institutional memory expansion and preservation need to be further discussed and studied. More in depth research that orients organizations to work through the fusses of rapid employee turnover, the integration of generations at the workplace and employee development should be done to help organizations expand and preserve their institutional memory. Expanding and preserving institutional memory

enables organizations to recall and reuse prior knowledge and past experiences to interpret and resolve evolving challenges, but empirical research need to further develop.

Future Research

Future empirical research is suggested to analyze more in detail the efficiency of integrating tacit knowledge elicitation into training designs to promote learning from leaders. A direction for future research aimed at improving our understanding of how can our leaders, and employees learn effectively from their experience should be stimulated (Hedlund et al., 2002).

It would be valuable if empirical research could be done on tacit knowledge elicitation used as a pre-training technique before undergoing any kind of training to test if trainee's performance improves. The interaction of tacit knowledge with important subsystems in an organization thereby shaping its knowledge base can be further studied using other research methods. (Bhardwaj & Monin, 2006). The following disciplines organizational learning, knowledge management and training could be integrated to contribute with research to provide clear guidelines for the tacit knowledge elicitation to add, expand and preserve the value of institutions memory.

Future experiments can take a closer look at how the knowledge lost in retirees' affects the organization and which variables are the most important. According to (Parker 2011) stakeholders will be focusing their attention in how to replace these retirees, but there is no evidence of formal conducted studies that address specific tacit knowledge lost in retirees' departure. The aforementioned retirement issue and the complexity of functioning effectively in dynamic business environments suggest that training experts get more involved in the

development of trainings that elicit knowledge sharing between employees for human capital development. Discoveries and analysis of tacit knowledge elicitation from training experts can integrate training techniques efficiently in an attempt to help organization obtain and sustain important tacit knowledge for the workforce of the future.

Also, future analyzes about the possibility of using tacit knowledge as an individuals' characteristic or metric tool that aids transfer of any type of knowledge following training. To subsequently help improve overall performance after any kind of training. The review implies that effective performance after training can be supported and aided by learning how to benefit from individuals' tacit knowledge during training, and after training to subsidy transfer of training and consequentially preservation of institutional memory. The applied training practices have some limitations on how trainee's tacit knowledge is addressed as a constituent of learning.

The literature mentions that on-the-job training, simulation-based training, shadowing, role-playing, cross-training and generative interviewing (Beard, Salas, & Prince, 1995; Cooke, Salas, Kiekel, Stout, Bowers & Canon-Bowers, 2003; Day, Blair, Daniels, Kligyte, & Mumford, 2006; & North, 2010) are ways to capture knowledge from experts but does not mention the influence that tacit knowledge has on the process of each individual that undergo the training. Understanding and training awareness of tacit knowledge can aid not only the facilitators of the training but those who undergo the training. Therefore, organizations should continue to fund and invest in training research and tacit knowledge to aid today's workforce.

APPENDIX: FIGURES

Figure 1. Proposed perspective to preserve institutional memory with tacit knowledge
Elicitation as a mediator and training best practices and a learning organization environment as moderators

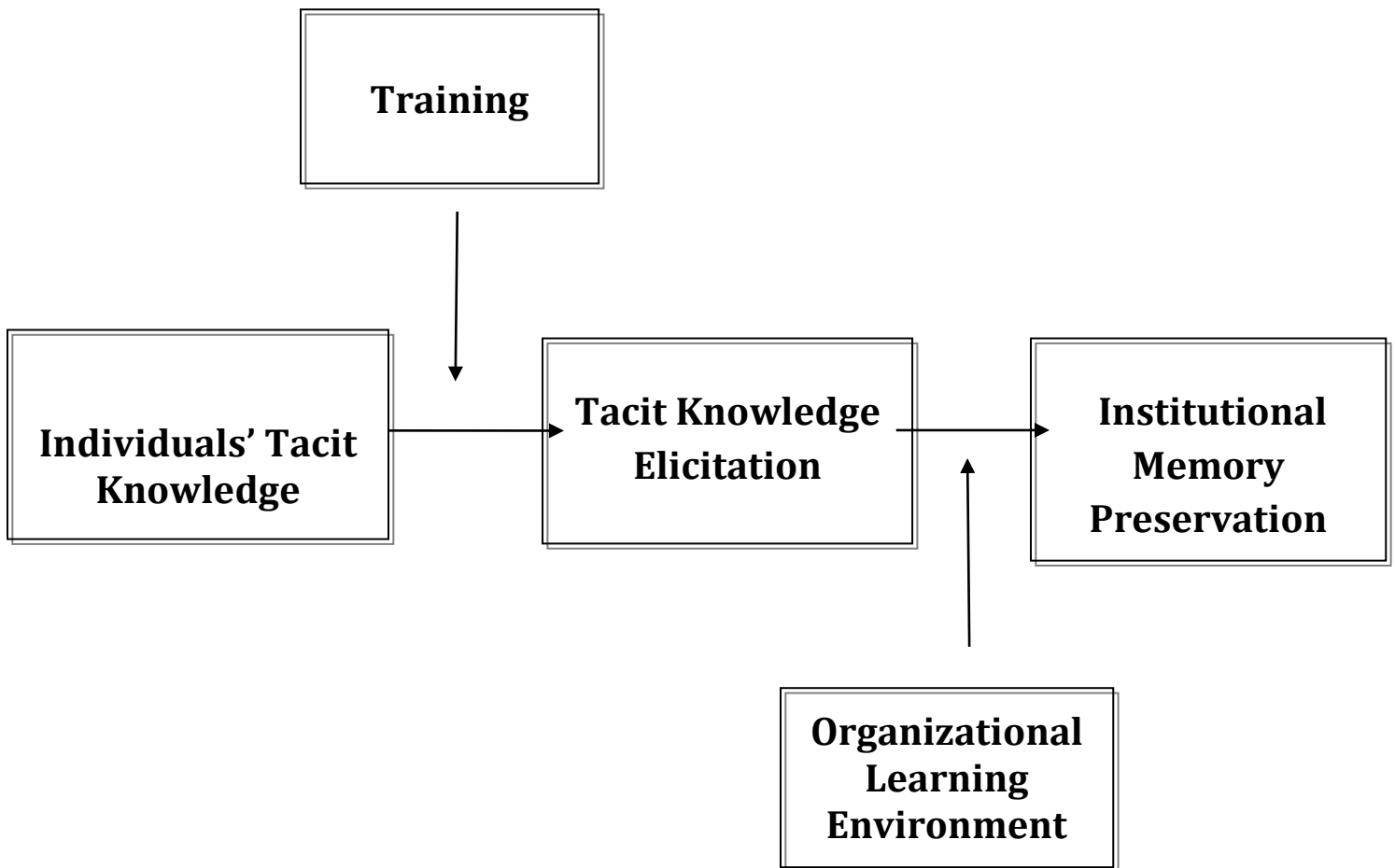


Figure 2. Proposed structure for know-why- to reference guide to convert tacit knowledge to explicit knowledge.

“KNOW-WHY” REFERENCE GUIDE
PROCESS

Elicit individual tacit
knowledge



- Ask for Description of the task
- Why it's done
- Why that method
- Why the organization decided to implement it
- Why and what kind of past experiences were use to take action



Strategies to transfer to
codified data

- Analogies
- Stories
- Metaphors
- Past Experiences



Simple, compact, easy to
read and captured
information

REFERENCES

- Ambrosini, V. and Bowman, C. (2008), "Surfacing tacit sources of success", *International Small Business Journal*, Vol. 26 No. 4, pp. 403-31.
- Arikan, A. (2009), "Interfirm knowledge exchanges and the knowledge creation capability of clusters", *Academy of Management Review*, Vol. 34 No. 4, pp. 658-76
- Ashby, F. C., & Pell, A. R. (2001). *Embracing excellence: become an employer of choice to attract and keep the best talent* / Franklin C. Ashby, Arthur R. Pell. Paramus, NJ: Prentice Hall Press, c2001.
- Beard, R. L., Salas, E., & Prince, C. (1995). Enhancing transfer of training: Using role-play to foster teamwork in the cockpit. *The International Journal Of Aviation Psychology*, 5 (2), 131-143.
- Bell, J., Moyers, R. and Wolfred, T. (2006). *Daring to lead 2006: a national study of nonprofit executive leadership*. *Meyer Foundation*, Retrieved from www.meyerfoundation.org/downloads/4DaringtoLead2006d.pdf
- Bennet, D., & Bennet, A. (2008). Engaging tacit knowledge in support of organizational learning. *VINE*, 38, 72 – 94
- Bhardwaj, M., & Monin, J. (2006). Tacit to explicit: An interplay shaping organization knowledge. *Journal Of Knowledge Management*, 10(3), 72-85.
- Bloodgood, J., & Morrow, J. (2003). Strategic organizational change: Exploring the roles of environmental structure, internal conscious awareness and knowledge. *Journal Of Management Studie*, 40(7), 1761-1782

- Boisot, M.H. (1995a), *Information Space: A Framework for Learning in Organizations, Institutions and Cultures*, Routledge, New York, NY
- Choo, C.W. & Alvarenga Neto, R. (2010), ‘‘Beyond the ba: enabling knowledge creation in organizations’’, *Journal of Knowledge Management, Vol. 14 No. 4*.
- Choo, C. (1998), *The knowing organization: how organization use information to construct meaning, create knowledge, and make decisions/ Chun Wei Choo*. New York: Oxford University Press, 1998.
- Coffey, J. W., & Hoffman, R. R. (2003). Knowledge modeling for the preservation of institutional memory. *Journal Of Knowledge Management, 7(3)*, 38-52.
- Collins, H. M., (1998) ‘Socialness and the undersocialised conception of society’. *Science, Technology and Human Values 23/4*:494–516.
- Collins, H.M. (2001), ‘‘Tacit knowledge, trust and the Q of sapphire’’, *Social Studies of Science, 31(1)*, 71-85
- Cooke, N.J., Salas, E., Kiekel, P.A., Stout, R., Bowers, C., & Canon-Bowers, J. (2003). Enhancing team knowledge: A window to the cognitive underpinnings of team performance. *The Educational Publishing Foundation, 7(3)*, 179-199.
- Coopey, J. (1995). The learning organization, power, politics and ideology introduction. *Management Learning, 26(2)*, 193-213.
- Criscuolo, P., Dahlander, L., & Salter, A. (2009), ‘‘Outside in, inside out: the impact of knowledge heterogeneity, intra- and extra-organizational ties on innovative status’’, *Academy of Management Proceedings*, pp. 1-6.

- Cross, R., Borgatti, S.P., & Parker, A. (2001), ‘‘Beyond answers: dimensions of the advice network’’, *Social Networks*, Vol. 23, pp. 215-35
- Day, E., Blair, C., Daniels, S., Kligyte, V., & Mumford, M. D. (2006). Linking instructional objectives to the design of instructional environments: The Integrative Training Design Matrix. *Human Resource Management Review*, 16(3), 376-395.
- Dalkir, K. (2005). *Knowledge management in theory and practice / Kimiz Dalkir*. Amsterdam ; Boston : Elsevier/Butterworth Heinemann, c2005.
- Davis, J. (2009), ‘‘Rotating leadership and symbiotic organization: relationship processes in collaborative innovation’’, *Academy of Management Proceedings*, pp. 1-6.
- Droege, S.B. , & Hoobler, J.M. (2003), ‘‘Employee turnover and tacit knowledge diffusion: a network perspective’’, *Journal of Managerial Issues*, Vol. 15.
- Drucker, P. (1991), ‘‘The new productivity challenge’’, *Harvard Business Review*, November/December, pp. 69-79
- Erickson, T. (1995), ‘‘Notes on design practice: stories and prototypes as catalysts for communication’’, in Carroll, J. (Ed.), *Scenario Based Design: Envisioning Work and Technology in System Development*, Wiley, New York, NY, pp. 37-58.
- Gabriel, Y. (1999), *Organizations in Depth: The Psychoanalysis of Organizations*, Sage, London.
- Gherhardi, S., & Nicolini, D. (2000), ‘‘To transfer is to transform: the circulation of safety knowledge’’, *Organization*, Vol. 7 No. 2, pp. 329-48.
- Goffee, R., & Jones, G. (2007), ‘‘Leading clever people’’, *Harvard Business Review*, March, pp. 1-16.

- Grossman, R., & Salas, E. (2011). The Transfer of Training: What Really Matters. *International Journal of Training And Development*, 15(2), 103-120.
- Harlow, H. (2008). The effect of tacit knowledge on firm performance. *Journal of knowledge Management*, 12, 148-163
- Harvey, J. (2012). Managing organizational memory with intergenerational knowledge transfer. *Journal Of Knowledge Management*, 16(3), 400-417
- Hedlund, J., Antonakis, J., & Stenberg, R.J.(2002). Tacit knowledge and practical intelligence: understanding the lessons of experience. *United States Army Research Institute for the Behavioral and Social Sciences*, 1-35.
- Hirsch, P., & Rao, H. (2003), ‘‘The Schweik syndrome: the narrative power of resistance by agreement’’, in Czarniawska, B. and Gagliardi, P. (Eds), *Narratives We Organize by*, John Benjamins Publishing Co., Amsterdam, pp. 137-48
- Holste, J., & Fields, D. (2010). Trust and tacit knowledge sharing and use. *Journal Of Knowledge Management*, 14(1), 128-140.
- Holzer, H. (2005). *New jobs in recession and recovery: Who are getting them and who are not?* Unpublished manuscript, The Urban Institute, Washington, DC. Retrieved from <http://www.urban.org/url.cfm?ID=900808>
- Johannessen, J., Olaisen, J., & Olsen, B. (2000), ‘‘Mismanagement of tacit knowledge: knowledge management, the danger of information technology and what to do about it’’, SKIKT, available at: <http://program.forskningsradet.no/skikt/johannessen.php3>

- Kraiger, K., Ford, J. K., & Salas, E. (1993). Integration of cognitive, skill-based, and affective theories of learning outcomes to new methods of training evaluation. *Journal of Applied Psychology*, 78, 311–328.
- Kreiner, K. (2002), “Tacit knowledge management: the role of artifacts”, *Journal of Knowledge Management*, Vol. 6 No. 2, pp. 112-23
- Lam, A. (2000), “Tacit knowledge, organization learning and societal institutions: an integrated framework”, *Organization Studies*, Vol. 21 No. 3, pp. 487-513
- Lehman, J. (2004). *The sales manager’s mentor*. London, UK: Thorogood.
- Lichtenthaler, U. (2009), “Absorptive capacity, environmental turbulence, and the complementarity of organizational learning processes”, *Academy of Management Journal*, Vol. 52 No. 4, pp. 822-46.
- Linde, C. (2001), “Narrative and social tacit knowledge”, *Journal of Knowledge Management*, Vol. 5 No. 2, pp. 160-70
- Lloyd, P. (2000), “Storytelling and the development of discourse in the engineering design process”, *Design Studies*, Vol. 21, pp. 357-73.
- Lubit, R. (2001), “Tacit knowledge and knowledge management: the keys to sustainable competitive advantage”, *Organization Dynamics*, Vol. 29 No. 4, pp. 164-78
- Máynez Guaderrama, A. I., Arroyo, J., Suárez, S., & de la Parra, J. (2012). Identificación de factores comunes estudiados, relacionados con la transferencia de conocimiento tácito dentro de las organizaciones. *Revista Internacional Administración & Finanzas (RIAF)*, 5(1), 103-117.

- Patel, L. (2010). ASTD State of the industry report 2010. Alexandria, VA: American Society for Training & Development.
- Peet, M. (2012), "Leadership transitions, tacit knowledge sharing and organizational generativity", *Journal of Knowledge Management*, Vol. 16 Iss: 1 pp. 45 – 60
- Nelson, R.R. (1982). The role of knowledge in R&D efficiency. *Quarterly Journal of Economics*, 97(3), 453-470.
- Nonaka, I., & Takeuchi, H. (1995). *The knowledge-creating company: How Japanese companies create the dynamics of innovation*. Oxford, NY: Oxford University Press, Inc.
- North, J. (2010). Using 'coach developers' to facilitate coach learning and development: Qualitative evidence from the UK. *International Journal Of Sports Science & Coaching*, 5(2), 239-256.
- Odiorne, G.S. (1990). *The human side of management: Managed by the integration and self-control*. Lexington Books
- O'Leary, D.E. (1998), "Enterprise knowledge management", *Computer*, 31 (3), pp. 54-61.
- Orlikowski, W. J. (2002). Knowing in practice: Enacting a collective capability in distributed organizing. *Organization Science*, 13(3), 249-273.
- Orr, J.E. (1995). *Ethnography and organizational learning: in pursuit of learning at work*. Work Practice and Technology, systems and practices laboratory: XEROX PARC, Palo Alto, CA.
- (OK Report 2008). Retrieved from Oklahoma Employment Security Commission Economic Research & Analysis Division website:

https://www.ok.gov/oesc_web/documents/lmiEconomicReport2012.pdf

- Parker, M. (2011). Exploring tacit knowledge transfer: How community college leaders ensure institutional memory preservation. *Dissertation Abstracts International Section A*, 72, 1-121.
- Pearlson, K.E., & Saunders, C.S. (2010). *Managing and using information systems: A strategic approach*. New Jersey, NY: John Wiley & Sons, Incf.
- Penrose, E. T. (1959) *The theory of the growth of the firm*. Oxford: Oxford University Press
- Pleasant, N. (1996), “Nothing is concealed: de-centering tacit knowledge and rules from social theory”, *Journal for the Theory of Social Behavior*, Vol. 26 No. 3, pp. 233-55
- Poindexter, K. (2008). Passing the torch but not just yet. *Public Manager*, 37, 11-15
- Polanyi, M. (1966). *The tacit dimension*. Garden City, N.Y., Anchor Books [1967, c1966].
- Pulakos, E. D., Arad, S., Donovan, M. A., & Plamondon, K. E. (2000). Adaptability in the workplace: Development of a taxonomy of adaptive performance. *Journal of Applied Psychology*, 85, 612-624.
- Reamy, T. (2002), “Imparting knowledge through storytelling”, *KM World*, Vol. 11 No. 6, pp. 8-11.
- Rosen, C.A., Salas, E., Lyons, R., & Fiore, S.M. (2008). Expertise and naturalistic decision making in organizations: Mechanisms of effective decision making. In (Ed.), *Expertise and naturalistic decision making: Mechanisms of effective decision making* (pp.210-230). New York, NY: Oxford University Press Inc.

- Rothwell, W. & Poduch, S. (2004). Introducing technical (not managerial) succession planning. *Public Personnel Management*, 33, 405-419.
- Ruelas-Gossi, A. (2002). Acquisition of knowledge and knowledge of acquisitions: The cemex way. *Journal Of Knowledge, Culture and Change Management*, 5, 1-18.
- Ruggles, R. (1998), "The state of the notion: knowledge management in practice", *California Management Review*, 40 (3)
- Salas, E., Tannenbaum, S.I., Kraiger, k., & Smith-Jentsch, K.A. (2012). The science of training and development in organizations: What matters in practice. *Psychological Science In The Public Interest*, 13(2), 74-101.
- Salas, E., & Cannon-Bowers, J. (2001). The Science of training: A decade of progress. *Annual Reviews Psychology*, 52 , 471-499.
- Salas, E., & Stagl, K. C. (2009). Design training systematically and follow the science of training. *Handbook of principles of organizational behavior: Indispensible knowledge for evidence-based management*, 59-84
- Schwartz, D.G. (2006). *Encyclopedia of knowledge management*. Hershey, PA: Idea Group Reference.
- Senge, P. M. (1990). *The Fifth Discipline: The Art and Practice of the Learning Organization*. New York: Doubleday Currency.
- Senge, P. M. (1990). Catalyzing systems thinking within organizations. In F. Massarik (Ed.), *Advances in organization development*, 1, 197-246. Westport, CT US: Ablex Publishing.
- Smith, H.A., McKeen, J.D., & Singh, S. (2007). Tacit knowledge transfer: Making it happen. *Journal of Information Science and Technology*. 4(2), 23-72.

- Snyder, C., McManus, D., & Wilson, L. (2000). Corporate memory management; a knowledge management process model. *International Journal of Technology Management*, 20(5-8), 752-764.
- Stenmark, D. (2000), ‘‘Leveraging tacit organizational knowledge’’, *Journal of Management Information Systems*, Vol. 17 No. 3, pp. 9-24
- Sveiby, K.E. (2001), ‘‘A knowledge based theory of the firm to guide strategy formulation’’, *Journal of Intellectual Capital*, Vol. 2 No. 4, pp. 344-58
- Toffler, A. (1990). *Powershift: knowledge, wealth and violence at the edge of the 21st century*. New York: Bantam Books.
- Tsoukas, H. (2002), ‘‘Do we really understand tacit knowledge?’’, paper presented at Knowledge Economy and Society Seminar, LSE Department of Information Systems, London, available at: www.is.lse.ac.uk/events/
- Wood, S., & Reynolds, J. (2013). Knowledge management, organisational learning and memory in UK retail network planning. *Service Industries Journal*, 33(2), 150-170.