2016

Retention of Institutional Memory Via Knowledge Management: Perceptions Regarding the Effectiveness of Corporate Approaches Applied in Higher Education

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RETENTION OF INSTITUTIONAL MEMORY VIA KNOWLEDGE MANAGEMENT: PERCEPTIONS REGARDING THE EFFECTIVENESS OF CORPORATE APPROACHES APPLIED IN HIGHER EDUCATION

A Dissertation

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy

in

The School of Human Resource Education
and Workforce Development

by
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August 2016

ACKNOWLEDGMENTS

There are many individuals that deserve space on this page given that without their involvement and influence, this dissertation might not have been written:

To my doctoral committee, beginning with Dr. Michael Burnett whose patience apparently knows no bounds. Your even keeled guidance provided just the right amount of direction that I needed and I am forever grateful for the transfer of knowledge (pun intended) and sage advice. I am equally grateful to Dr. Sonja Wiley, Dr. Donna Redmann, and Dr. Alvin Burns who were all somehow able to rigorously challenge my thinking while lending welcomed assistance and support.

To the individuals that I've had the pleasure of reporting to during my professional career: Marian Castille, A.G. Monaco, Lee Griffin, and Dr. Stephen Moret, thank you for allowing me the capacity to check the box on this milestone.

To my dear friends, colleagues, and relatives who consistently offered words of support and encouragement, it meant the world to me and was often the push that I needed to write one more page and read one more chapter.

To my mother, Audrey, who has and always will be a shining example of how and what a mother should be. You have supported and encouraged me in so many ways every single day of my life and for that, I love and thank you.

To my daddy, Levi, though not able to physically witness the last leg of this journey, was with me in spirit every step of the way. I love you still and always, Poppy.

To Blaise and Ryan, two of the very best decisions that I've ever made and will make in my life. My prayer has always been that you both develop into men with integrity and character and that prayer was answered beyond measure.

I am honored to have received the gift of being your mom and I can't wait to see you guys set the world on fire.

Last, but by no means least, my husband Andre, who is perhaps the proudest husband on the planet. From small wins to big achievements such as this one, to see you beam and get peacock proud solely because I was the person that did it, is a rare quality that I recognize and do not take for granted. The countless foot rubs after a typical 14 hour day of "schwork", the many roles that you gladly accepted so that my load could be just a little lighter, and the sacrifices that you've made and continue to make for me and our family confirms that you are quite simply the best part of me. I love you today and always.

In closing, what's next?

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ABSTRACT

Research has shown that private industry has a better grasp on knowledge management concepts and practices than in the higher education arena. Given the internal and external challenges facing colleges and universities, the processes and systems associated with knowledge management could serve as a resource for performance improvement and greater levels of effectiveness and efficiency. This phenomenological study was conducted to determine the perceptions and perspectives of deans regarding the usefulness and value of implementing knowledge management best practices typically employed by organizations in the private sector.

Four research questions guided this study: 1) What level of awareness exists of the impact of knowledge management in higher education administration? 2) What methods exist for capturing and sharing knowledge? 3) Can knowledge management strategies practiced in private industry translate successfully in the higher education arena? 4) What elements exist in the administration of higher education that either support or prevent the retention of institutional knowledge? Data was gathered in the form of a series of semi-structured interviews of past or present deans of public RU/VH institutions (Research University with Very High research activity as defined by the Carnegie Classification of Institutions of Higher Education) in the southern portion of the United States. Participants for this study were selected based on their leadership positions in the administration at the selected institution, each were interviewed, in part, to determine their awareness and perception of knowledge management.

The following themes surfaced after data analysis was performed: 1) there is a general lack of awareness of the specific term, knowledge management; 2) deans understand the conceptual value of knowledge management and are open to employing its practices in their college, but are resistant to doing so as it relates to their job responsibilities; 3) a cultural

misalignment exists between the higher education environment and private industry; 4) the human resource is a highly valued commodity in higher education; 5) knowledge management practices are siloed and limited in scope; and 6) obstacles exist that thwart the growth of knowledge management in higher education.

Finally, recommendations, limitations, suggestions for future research, and conclusions are offered to encourage the expansion of this specific topic.

CHAPTER 1: INTRODUCTION

There is an inherent value to organizations to capture information with the objective of sharing it to create new knowledge. Leaders within organizations have acknowledged this by recognizing that the most important strategic asset in their organizations is the knowledge possessed by their employees (Wiig, 1993). Although this position appears as the proverbial no-brainer, many obstacles present themselves that prevent the realization of this statement, especially in the higher education arena. Prior to an investigation of these obstacles and associated principles, clarification is required regarding the definition of knowledge management (KM) or even knowledge in general.

Definition of Terms

The word "knowledge" is one of the more nebulous words in the English language. All at once, it can mean information, data, expertise, facts, or even wisdom. Because it is important to not confuse the terms or to use them interchangeably, there is a succinct way to distinguish the terms, especially between data, information, and knowledge.

Data can be defined as the amount of facts about and available to an organization. Data translate into information when a person puts them in context based on their interpretation in order to find relationships, patterns, or causes (Petrides & Guiney, 2002). Examples of such are training manuals or annual reports. Conversely, knowledge is the understanding that emanates from people using information. These three components are more succinctly brought together by Chaffey and Wood (2005) when they identified knowledge as being the combination of data and information to which is added expert opinion, skills and experience to result in a valuable asset which can be used to make decisions. However, data as a standalone component does not have much value or meaning.

As referenced in Chaffey and Wood's model shown in Figure 1, the value and meaning of an intellectual asset increases or decreases as it moves up or down the hierarchy.
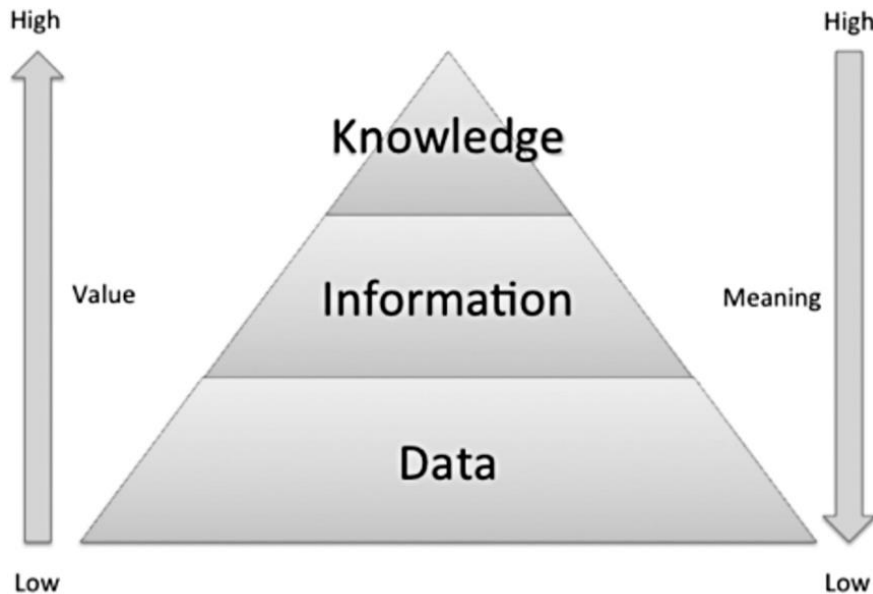
Figure 1 Data, Information, and Knowledge Hierarchy (Chaffey & Wood, 2005)

What further clarifies the term "knowledge" is the premise that the knowledge possessed by each individual is a product of his experience, and encompasses the norms by which he evaluates new inputs from his surroundings (Davenport & Prusak, 2000). Therefore, the following definition, presented by Gamble and Blackwell (2001), was used and is based closely on the previous definition by Davenport and Prusak:

> Knowledge is a fluid mix of framed experience, values, contextual information, expert insight, and grounded intuition that provides an environment and framework for evaluating and incorporating new experiences and information. It originates and is applied in the mind of the knowers. In organizations it often becomes embedded not only in documents or repositories, but also in organizational routines, practices and norms.

Iske and Boersma (2005) further support this definition when articulating that knowledge results from the interaction of someone's insights (past experience, intuition and attitude), information and imagination (generating ideas and visualizing futures). Additionally, Lee and

Yang (2000) espoused that knowledge is the result of interpreting information based on one's

understanding, it is influenced by the personality of its holder since it is based on judgment and

intuition; knowledge incorporates beliefs, attitude and behavior. These definitions lay out the

following key concepts (Transportation Research Board, 2007):

- Knowledge is a *combination* not only of data and documents, but also of information,
expert opinion and judgment, skills, and human experience.

- Knowledge is an *asset,* implying value and necessity for management attention.

- Knowledge *has value*, not for itself, but because it is used to aid decision-making.

- Knowledge *may be held* by a single individual or may be generally understood by many
(collectively).

Taxonomies of Knowledge

Most knowledge theorists categorize knowledge into two categories: explicit and tacit

knowledge. Explicit, or codified knowledge can be articulated into formal language, including

grammatical statements (words and numbers), mathematical expressions, specifications,

manuals, etc. Explicit knowledge can also be readily transmitted to others. It can easily be

processed by a computer, transmitted electronically, or stored in databases (Nonaka & Takeuchi,

1995). In a well-known and frequently cited *Harvard Business Review* article titled "The

Knowledge Creating Company," Ikujiro Nonaka refers to explicit knowledge as "formal and

systematic" and offers product specifications, scientific formulas, and computer programs as

examples. An example of explicit knowledge in the workplace is a manual that documents the

steps to process a travel voucher or a formal policy that outlines how to address a disciplinary

action.

Tacit knowledge is personal knowledge embedded in individual experience and involves intangible factors, such as personal beliefs, perspective, and the value system. Tacit knowledge is difficult to translate into words. It contains subjective insights, intuitions, and hunches. Before tacit knowledge can be communicated, it must be converted into words, models, or numbers that can be understood (Nonaka & Takeuchi, 1995). While some researchers view the two knowledge dimensions as distinct, Alavi and Leidner (2001) suggest that the two represent "not dichotomous states of knowledge, but mutually dependent and reinforcing qualities of knowledge". Tacit knowledge provides the background necessary for development and interpretation of explicit knowledge. (Figure 2).
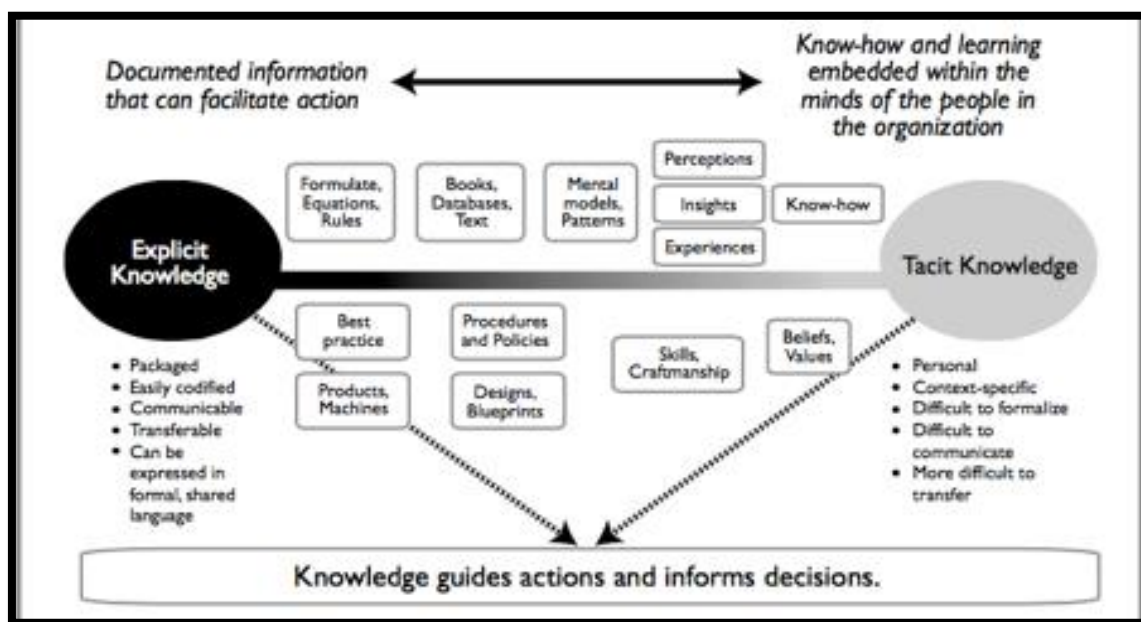
Figure 2 Tacit and Explicit Knowledge. (Pricewaterhouse Coopers, LLP, 2000)

Explicit knowledge exists in every organization and therefore, is not posed as a differentiating factor. On the other hand, tacit knowledge and the capture and use of that knowledge, can be the key determinant in an organization's success and sustainability.

When considering the higher education arena, there are two categories of knowledge that may be referenced: academic knowledge and organizational knowledge. The former reference pertains to the very existence of a college or university and the latter (the focus of this study) refers to knowledge of the overall business of an institution: its strengths and weaknesses, the markets it serves, and the factors critical to organizational success (Coukos-Semmel, 2003).

In making the connection or transition from defining knowledge to knowledge management, Davenport (1994) presented the still widely accepted definition: "Knowledge management is the process of capturing, distributing, and effectively using knowledge." Although very succinct, a broader and more comprehensive interpretation was created by Duhon (1998) and is quite possibly the definition that has been most frequently cited:

> Knowledge management is a discipline that promotes an integrated approach to identifying, capturing, evaluating, retrieving, and sharing all of an enterprise's information assets. These assets may include databases, documents, policies, procedures, and previously un-captured expertise and experience in individual workers. (p. 8)

The aforementioned data-information-knowledge connection or continuum can be a useful tool in determining exactly where an organization is regarding its knowledge management practices. Examples can be provided by Petrides and Guiney (2002):

Data: Do decision makers ask for pertinent data and are the available technologies sufficient for delivering those data? Routinely asking for pertinent data is the first key step in making important decisions that shape administrative initiatives.

Information: Does the organization regularly transform data into useful information through interpretation? Is that information disseminated to those that need it?

Knowledge: Are there mechanisms for engaging people to further synthesize information?

Organizations that use strategies to collect, handle, and distribute data are not employing proven principles rooted in the management of knowledge. In order to make the transition from data to knowledge, regular engagement of stakeholders is required in order to affect change through the application of proven best practices. The application of knowledge management spans across disciplines, particularly in disparate fields of study that have not traditionally experienced connections before: human resource management, marketing, information systems and decision sciences, computer science, and library science are a few. The exciting part of these and other connections is the prospect of creating new areas of study and subsequently, heightened levels of respect and understanding of other disciplines.

Knowledge Management as a Critical Factor in Successful Organizations

Certain critical success factors must be present for successful knowledge management to take place, regardless of the industry or sector. The factors are:

1. Trust. In order for knowledge sharing to work in an organization, there should be a strong degree of interpersonal trust or trust between co-workers. Interpersonal trust is known as an individual or a group's expectancy in the reliability of the promise or actions of other individuals or groups (Politis, 2003). Team members require the existence of trust in order to respond openly and share their knowledge (Gruenfeld, Mannix, Williams, & Neale, 1996).

2. Communication between staff. Communication here refers to human interaction through oral conversations and the use of body language while communicating. Human interaction is greatly enhanced by the existence of social networking in the workplace. This form of communication is fundamental in encouraging knowledge transfer (Smith & Rupp, 2002).

3. Information systems. The term information systems are used to refer to an arrangement of people, data and processes that interact to support daily operations, problem solving and decision

making in organizations (Whitten, Bentley, & Dittman, 2001). Organizations use different

information systems to facilitate knowledge sharing through creating or acquiring knowledge

repositories, where employees share expertise electronically and access to shared experience

becomes possible to other staff (Connelly & Kelloway, 2003).

4.   Reward system. According to Syed-Ikhsan and Rowland (2004), employees need a strong

motivator in order to share knowledge. It is unrealistic to assume that all employees are willing

to easily offer knowledge without considering what may be gained or lost as a result of this

action. Managers must consider the importance of collaboration and sharing best practices when

designing reward systems. The idea is to introduce processes in which sharing information and

horizontal communication are encouraged and indeed rewarded. Such rewards must be based on

group rather than individual performance (Goh, 2002).

5.   Organization structure. Traditional organization structures are usually characterized by

complicated layers and lines of responsibility with certain details of information reporting

procedures. Nowadays, most managers realize the disadvantages of bureaucratic structures in

slowing the processes and raising constraints on information flow. In addition, such procedures

often consume great amount of time in order for knowledge to filter through every level. Syed-

Ikhsan and Rowland (2004) argued that knowledge sharing prospers with structures that support

ease of information flow with fewer boundaries between divisions.

Despite the identified and widely accepted success factors, knowledge management

remains an elusive goal for many organizations. Several factors can be attributed to this

outcome: limited amounts of human capital, increasing customer demands, and ill-equipped

infrastructures to support the organization are just a few, but the availability of specific methods

to manage the knowledge on which organizations run is of paramount importance. According to

research conducted by the Transportation Research Board in Washington D.C., accumulated knowledge is considered the fourth major asset to be managed as part of typical business processes, comparable to physical assets (buildings and equipment), financial assets, and human resources. In many instances, the departure of employees due to, for example, retirement or termination, can lead to substantial losses in institutional memory. Institutional memory is contained in information, rules, procedures, and directives to facilitate work distribution, coordination, evaluation, and rewards," but it also includes "shared assumptions, beliefs, attitudes, and behaviors of an organizational culture" (Rusaw, 2004).

Specifically, the practice of knowledge management has been particularly elusive in higher education due to the fact that KM is a multi-layered and systems-oriented process that requires organizations to rethink what they do and how they do it (Brown & Duguid, 2000; Senge, 1990). Additionally, educational institutions are traditionally hierarchical with silo-like functions, making cross-functional initiatives difficult to implement (Friedman & Hoffman, 2001; Petrides, McClelland, & Nodine, 2004). One area in particular where siloed operations exist is in the area of technology. Within most universities, information and data are housed in disparate locations outside of any integrated system, thereby lessening the sharing of that information and increasing the instances of redundant data gathering. Given the critical role that a solid technology infrastructure plays in knowledge management, this only further exacerbates the problem.

Purpose of the Study

There are many reasons to embark on an in-depth study of institutional knowledge management, specifically if and how successes experienced in the private sector may limit institutional memory loss in higher education. Institutional memory includes knowledge residing

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in various component forms, including written documentation, structured information stored in electronic databases, codified human knowledge stored in expert systems, documented organizational procedures, and processes and tacit knowledge acquired by individuals and networks of individuals (Tan, Teo, Tan, & Wei, 1998). This problem has come to the forefront in part because of the recent onslaught of retiring Baby Boomers, which begin in 2010. This trend will continue well into the next decade, which equates to the largest retirement numbers in history. Another frequently overlooked factor that impacts institutional "brain drain" are Gen X and Gen Y employees. By definition, these employees do not plan to retire from the first job that they accept; on the contrary, the average tenure is typically five years. Although the characteristics of this group are quite different from employees that are near eligible retirement age, the common thread is that the loss of institutional knowledge is the same, knowledge that organizations have paid for through onboarding costs, professional development, and salaries/benefits. Estimates of lost productivity and lost expertise range from the tens of millions into the billions (Leaderfuelnow, 2009). A 2009 white paper by the Leaderfuelnow organization presents a scenario involving a small, 100-employee firm. If each employee spends 20% of his or her time (a conservative estimate!) re-creating different types of knowledge, at an average wage of just $30,000, the cost will be close to $1,000,000 per year. In a firm with 1,000 employees, the cost will be almost $10,000,000 per year.

Several obstacles serve as barriers to the retention of knowledge that are rooted in social and organizational constructs (Transportation Research Board, 2007):

- Apathy regarding the sharing of knowledge;

- Reward systems that mitigate against knowledge sharing;

- Differing cultures and subcultures;

- The absence of a common organizational "language";

- Inadequate supportive technology;

- Lack of balance among disciplines, i.e. an over-reliance on information technology (IT) as a driver vs. an enabler, over-reliance on documentation, or over-reliance on people-to-people approaches;

- Development of small work unit efforts, etc. without a coherent enterprise-wide strategy or a "systems thinking" holistic approach;

- Insufficient IT skills to develop sophisticated databases that handle textual information as something other than just "data," necessitating applications of taxonomies, superior searching capabilities, etc.;

- "Hero" syndrome: The desire by employees to be indispensable;

- Knowledge capture and sharing is seen to be additional work.

Research has shown that private industry has a better grasp on knowledge management than in the higher education arena. What are the reasons that create this distinction? Is value seen in knowledge management practices by higher education leaders given the success that those practices have had in the private sector, i.e. what is their perception of those practices? Can those leaders, i.e. deans and their stakeholders, expect the same or similar outcomes? This study attempted to answer those and many other questions using the following research questions as a foundation:

1.	What level of awareness exists of the impact of knowledge management in higher education administration?

2.	What methods exist for capturing and sharing knowledge?

3.   Can knowledge management strategies practiced in private industry translate successfully in the higher education arena?

4.   What elements exist in the administration of higher education that either support or prevent the retention of institutional knowledge?

Significance of the Study

Using knowledge management techniques and technologies in higher education is as vital as it is in the corporate sector. If done effectively, it can lead to better decision-making capabilities, reduced "product" development cycle time (for example, curriculum development and research), improved academic and administrative services, and reduced costs (Dutta, Chakraborty, & Sarkar, 2004). Think about the number of employees who have amassed institutional knowledge. For example, what institution does not have a dean who has successfully chaired a search committee for a senior leadership position? Or an administrative assistant that has mastered the coordination required to schedule a Board of Regents meeting? Or a researcher who can deftly navigate between industry contacts and the institution's office of research and economic development? Relying on the institutional knowledge of unique individuals can hamper the flexibility and responsiveness of any organization. The challenge is to convert the information that currently resides in those individuals and make it widely and easily available to any faculty member, staff person, or other constituent. An institution-wide approach to knowledge management can lead to exponential improvements in sharing knowledge—both explicit and tacit— and the subsequent surge benefits (Dutta, et al., 2004).

The ever-increasing competitive landscape of higher education has created urgency for greater and higher levels of sophistication as it relates to knowledge management structures and processes. Traditional brick and mortar universities are now competing with 100% online degree

programs at "internet" institutions. McCaffery (2004) explains that traditional universities are now competing with other types of tertiary institutions such as corporate universities, virtual universities, and mega universities. Many state institutions are receiving lesser amounts of funding from their state legislatures, a reality that is causing university leadership to begin thinking about the benefits of managing the university like a business, including the use of knowledge management tools and strategies. Finally, employees are continuing to walk out of the proverbial door without participating in some activity or exercise to capture the various types of knowledge they have gained during their years of service to the institution. It is unclear as to why this very predictable scenario goes unchecked and unaddressed.

The tectonic shift that has taken place during the last decade regarding state disinvestment in higher education is a contributing factor as well. In a report completed by the State Higher Education Executive Officers Association (2015), based on the trends since 1980, average state fiscal support for higher education is likely to reach zero by 2059, although it could happen much sooner in some states and later in others. Forty-six states cut support for public higher education per FTE student between 2008 and 2014, after adjusting for inflation. And these cuts were deep: thirty-six states cut inflation-adjusted spending per FTE student by more than 20 percent, nineteen cut by more than 25 percent, and ten cut by more than 30 percent. As funding dwindles, more attention may be needed toward certain productivity measures as a result of rising public accountability pressures linked to academic outcomes. Therefore, the ease and degree to which data (e.g. enrollment statistics, research costs, faculty/student ratios) can be collected, contextualized, and distributed by academic institutions to legislative decision makers can be of significant import to reversing the continued decline of state support.

In numerous colleges and universities, there is little to no integration of knowledge management in their administrative and academic operations because it is a fairly new discipline for that environment, but it is one that is growing (Gourova & Antonova, 2008). Higher education institutions are staffed with some of the most brightest analytical and deductive minds, regularly and consistently furthering the repositories of knowledge in their respective fields. However, the success of a university hinges not on the individual knowledge base of one professor or dean, but on the collective, institutional knowledge of all employees and the framework and structure in which to capture it.

Knowledge sharing and knowledge transfer is the most efficient way to address the somewhat morbid, but realistic "Hit by a Bus" factor, i.e. the impact on the organization if a key employee was the unfortunate victim of an unexpected accident with a bus. In reality, it may not actually involve a vehicular accident, but nonetheless, one of the company's most knowledgeable and productive employees is gone and there is no Plan B in place and no knowledge of the processes and procedures that only that employee knew. "What would happen to critical processes?" "How would the absence of the information that only resided with that employee affect the bottom line?" Logical expectations would lead one to think that organizations possess well thought out mechanisms to address this issue, but most do not, especially colleges and universities.

A survey conducted in 2005 by Accenture of more than 500 full-time U.S. workers between 40 and 50 years of age found that nearly half (45 percent) of respondents' organizations do not have formal workforce planning processes and/or tools in place to capture their workplace knowledge. Additionally, one-quarter (26 percent) of respondents said that their organizations would let them retire without any transfer of knowledge. Twenty percent said they anticipate an

intensive, months-long process of knowledge transfer prior to their leaving, 28 percent said they believe the knowledge transfer process will last one or two weeks, and 16 percent think they will simply have an informal discussion with others in the organization prior to retirement.

Two universities with identical numbers of faculty, degree programs, expenditures, and enrollment may vary widely in how successful they are in rankings such as those conducted by U.S. News and World Report. The difference is often intangible value that is added by effective knowledge management. Organizations that reward collaboration and information sharing are "outperforming companies that discourage these practices…" (Microsoft, 2000). Several areas and processes in higher education can benefit from the application and implementation of knowledge management principles (Kidwell, Linde, & Johnson, 2000):

- The research process – providing a repository for research interests within an institution or at affiliated institutions;

- The curriculum development process – providing a portal of information related to teaching and learning with technology, including faculty, development opportunities, outcomes tracking, lessons learned, best practices, technology overviews, etc.;

- The student services process – providing a portal for both students and for faculty and staff at the institution so that they are well informed to advise students. Information could include policies and procedures related to admissions, financial aid, registration, degree audit, billing, payment process, advising and tutoring, housing, dining, and other services. This portal could be personalized for individual schools or student groups to customize service offerings.

Additionally, many other processes and practices that are generally associated with the corporate arena have been successfully adopted by higher education: strategic planning, cross-functional teams, performance management, and brand identity strategies.

However, the focus of this study is on the senior administrative responsibilities and functions of deans in higher education. The structure of a university's administration resembles the vertical management structures in organizations within private industry. University presidents are analogous to CEOs, and deans and department chairs compare to middle management in organizations. This similarity in management structure indicates that colleges and universities could benefit from knowledge retention practices as well. The inherent benefits to be gained from the implementation of these best practices for this constituency are:

- Facilitating and expediting the orientation to new leadership roles, as well as succession management in light of the rare reality of several leadership positions being vacant within a short time frame;

- Enhanced ability to identify improvement efforts by building on past understanding;

- Improved responsiveness and communication capabilities.

CHAPTER 2: REVIEW OF THE LITERATURE

Review of the literature related to knowledge management in the higher education arena reveals that little has been written about the opportunities that colleges and universities have to capitalize on this critical component that has typically been applied in the corporate arenas. Even less information exists on how deans perceive the need for and the usefulness of the implementation of knowledge management principles. As a starting point, a review of basic knowledge management principles and practices served as a solid foundation.

The growing importance of managing organizational or corporate knowledge was emphasized in Massachusetts Institute of Technology (MIT) and Carnegie Mellon research in the 1970s. However, these efforts were oriented toward the development of automated machine processes and artificial intelligence rather than toward integrating knowledge as a unifying corporate goal. In the 1990s, the idea of better utilizing knowledge began to be considered as a new organizational approach. Only now, in the 2000s, has the ability to deploy and exploit knowledge been recognized as being crucial to corporate survival. The historical development of knowledge management from isolated data applications before the 1970s to knowledge management in the late-1990s is shown in Figure 3 (Krugler, Chang-Albitres, & Robideau, 2006).

Before the 1970s, at the beginning of information technology (IT) development, no special attention was given to data management. The first step in the historical development of knowledge management started with technical integration of isolated data with the implementation of database management systems (DBMS) in the mid-1970s.
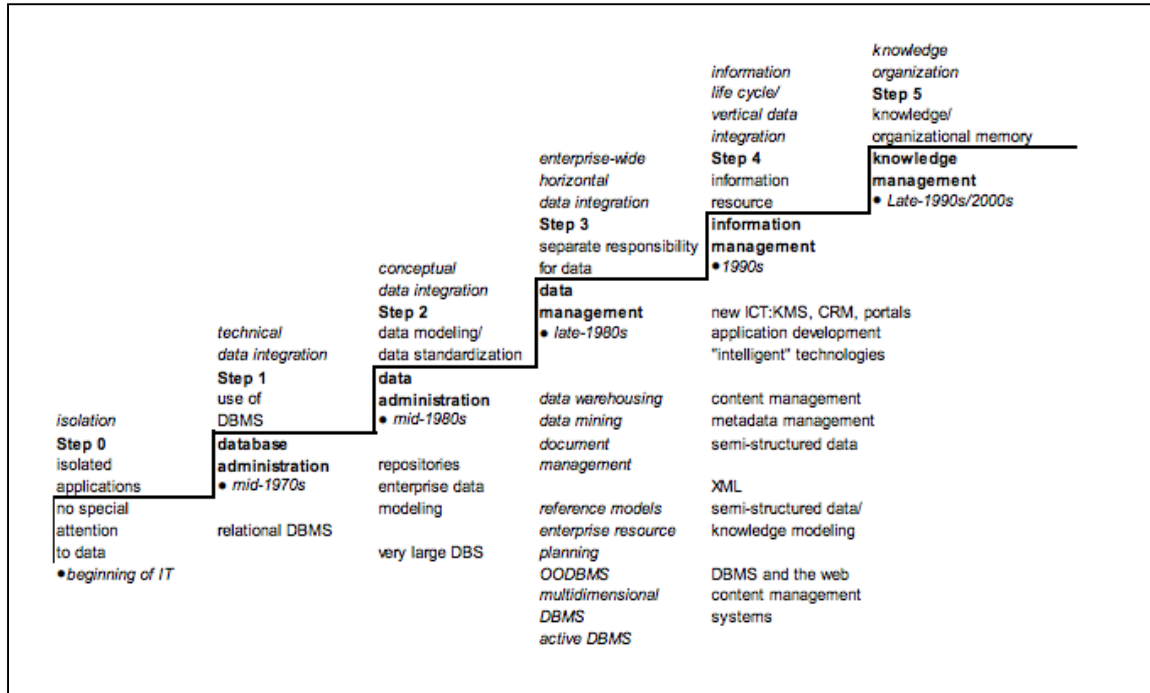
Figure 3. The Historical Development of Knowledge Management (Krugler, Chang-Albitres, & Robideau, 2006).

The second stage, in the mid-1980s, involved conceptual data integration, data modeling, and data handling. The need for enterprise-wide horizontal integration led to very large database systems (DBS) in the late 1980s. This step is considered the third stage in the development of knowledge management. In the 1990s, information was considered as a production factor and object oriented database management systems (OODBMS) were implemented for data warehousing, data mining, and document management. This advance is considered the fourth stage in the evolution. Finally, knowledge management emerged as a business approach in the late-1990s with new technological tools including information and communication technology (ICT), knowledge management systems (KMS), customer relation management (CRM), web portals supported by "intelligent technologies," and a new model to structure data called extensible markup language (XML) (Krugler et al., 2006).

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As a recognized business practice, knowledge management has a relatively short history. The Library of Congress (http://www.loc.gov) apparently did not use the term "knowledge management" as an authorized subject heading in its catalog until about 1997. As of this writing, the Library has applied the term to only 95 titles published before 2000. It has applied the term to 691 post-2000 works, two of which are encyclopedias, which may signal a certain maturation of the field: *Encyclopedia of Communities of Practice in Information and Knowledge Management* and *Encyclopedia of Knowledge Management* (Transportation Research Board, 2007).

Historical Overview of Knowledge Management Life Cycles, Frameworks, and Activities

Various processes appear in literature that categorizes how institutional knowledge is managed: knowledge creation, knowledge storage/retrieval, and knowledge transfer (Alavi & Leidner, 2001).

Knowledge creation is an essential part of knowledge management. It refers to the ability of an organization to develop new and useful ideas and solutions (Marakas, 1999). By reconfiguring and recombining foreground and background knowledge through different sets of interactions, an organization can create new realities and meanings. Knowledge creation is an emergent process in which motivation, inspiration, experimentation, and pure chance play an important role (Lynn, Morone, & Paulson, 1996). Critical factors for success in this area are what is recognized in the organization as knowledge and how such knowledge is developed in the organization and its employees. Organizations create new knowledge through numerous activities: 1) action learning (involves working on problems, focusing on the learning acquired, and actually implementing solutions); 2) systematic problem solving (requires a mindset, disciplined in both reductionism and holistic thinking, attentive to details, and willing to push

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beyond the obvious to assess underlying causes); and 3) learning from past experience (reviews a company's successes and failures, assessing them systematically, and transferring and recording the 'lessons learned' in a way that will be of maximum benefit to the organization) (Morse, 2000).

In order to store and later to retrieve knowledge, an organization must first determine what is important to retain and how best to retain it. Knowledge should be structured and stored so the system can find and deliver it quickly and correctly. When structuring knowledge, it is important to consider how the information will be retrieved by different groups of people. Functional and effective knowledge storage systems allow categorization around learning needs, work objectives, user expertise, use of the knowledge, and location (where the information is stored). However, knowledge is not always present in its optimal form, is not available when needed, and is not present where the work activity is carried out. Additionally, knowledge content is often not complete, not current, and not uniform (Wadhwa & Madaan, 2007).

The majority of the literature focuses on the third element, that of the knowledge transfer channels. Knowledge transfer channels can be informal or formal, personal or impersonal (Holtham & Courtney, 1998). Informal mechanisms, such as unscheduled meetings, informal seminars, or coffee break conversations, may be effective in promoting socialization, but may preclude wide dissemination (Holtham & Courtney, 1998). Such mechanisms may also be more effective in small organizations (Fahey & Prusak, 1998). However, such mechanisms may involve certain amounts of knowledge atrophy in that, absent a formal coding of the knowledge, there is no guarantee that the knowledge will be passed accurately from one member to others. Formal transfer mechanisms, such as training sessions, may ensure greater distribution of knowledge, but may inhibit creativity. Personal channels, such as mentoring programs, may be

more effective for distributing highly context specific knowledge whereas impersonal channels, such as knowledge repositories, may be most effective for knowledge that can be readily generalized to other contexts. Personnel transfer is a formal, personal mechanism of knowledge transfer. Such transfers immerse team members in the routines of other members, thereby allowing access to the partner's stock of tacit knowledge. A benefit is that learning takes place without the need to first convert tacit knowledge to explicit, saving time and resources and preserving the original knowledge base (Fahey & Prusak 1998).

IT can serve as a vehicle or enabler to increase knowledge transfer by extending the individual's reach beyond the formal communication lines. The search for knowledge sources is usually limited to immediate coworkers in regular and routine contact with the individual. However, individuals are unlikely to encounter new knowledge through their close-knit work networks because individuals in the same workgroup or area tend to possess similar information (Robertson, Swan, & Newell, 1996). Moreover, studies show that individuals are decidedly unaware of what their cohorts are doing (Kogut & Zander, 1996). Thus, expanding the individual's network to more extended, although perhaps weaker, connections are central to the knowledge diffusion process because such networks expose individuals to more new ideas (Robertson et al., 1996). Computer networks and electronic bulletin boards and discussion groups create a forum that facilitates contact between the person seeking knowledge and those who may have access to the knowledge. For example, this may be accomplished by posting a question in the form of "does anybody know" or a "request for help" to the discussion group.

Knowledge Management Models

To understand how organizations create knowledge dynamically, a review of the model of knowledge creation is warranted which consists of three elements: (i) the SECI process, the process of knowledge creation through conversion between tacit and explicit knowledge; (ii) ba, the shared context for knowledge creation; and (iii) knowledge assets - the inputs, outputs, and moderator of the knowledge-creating process. The three elements of knowledge creation have to interact with each other to form the knowledge spiral that creates knowledge (see Figure 4). An organization creates knowledge through the interactions between explicit knowledge and tacit knowledge. The interaction between the two types of knowledge is referred to as "Knowledge Conversion" (Nonaka, Byosiere, Borucki, & Konno, 1994).
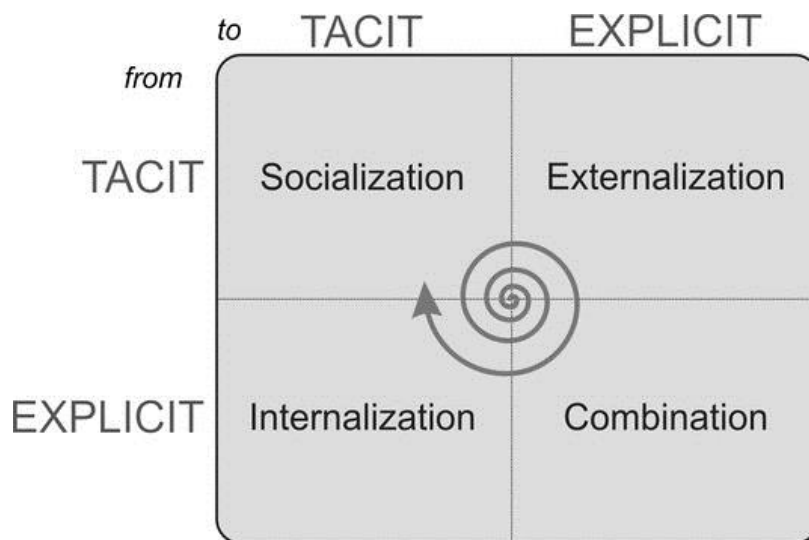
Figure 4 The SECI Model of Knowledge Conversion (Nonaka, Byosiere, Borucki, & Konno, 1994).

There are four modes of knowledge conversion: (1) socialization (from tacit knowledge to tacit knowledge); (2) externalization (from tacit knowledge to explicit knowledge); (3) combination (from explicit knowledge to explicit knowledge); and (4) internalization (from explicit knowledge to tacit knowledge) (Nonaka & Takeuchi, 1995). Socialization is the process of converting new tacit knowledge through shared experiences. Socialization emphasizes

observation, imitation, and practice and might be especially useful for creating expressible and inexpressible tacit knowledge (Nonaka, 1994). For example, many institutional initiatives are completed using groups of key inside and outside people, but with varying levels of experience and knowledge. During their meetings, the transfer of all kinds of knowledge could occur. Explicit documents could be distributed and expressible tacit knowledge could be converted to explicit forms.

Externalization is the process of articulating tacit knowledge into explicit knowledge. When tacit knowledge is made explicit, knowledge is crystallized, thus allowing it to be shared by others, and it becomes the basis of new knowledge (Nonaka, 1994). A dean crafting a strategy for his/her academic unit based on past experience is an example of the process of externalization.

Combination is the process of converting explicit knowledge into more complex and systematic sets of explicit knowledge. Explicit knowledge is collected from inside or outside the organization and then combined, edited or processed to form new knowledge. The new explicit knowledge is then disseminated among the members of the organization (Nonaka, 1994). Organizational intranets can be used to facilitate the process of combination. Additionally, incorporating action or tactical steps into a high level project serves as an example as well.

Internalization is the process of embodying explicit knowledge into tacit knowledge. Through internalization, explicit knowledge is shared throughout an organization and converted into tacit knowledge by individuals. Internalization is closely related to "learning by doing" (Nonaka, 1994). Explicit knowledge, such fundraising principles being presented in a workshop, and followed up by role-play and practice is such an example.

Any model used to depict how knowledge is built and used 'must be both flexible and quite specific as to how different needs can be met' (Wiig, 1993: 55). Wiig's (1993) model is characterized by the use of colloquial terms to describe each of the four major phases (stages) namely: build, hold, pool, and apply knowledge.

In the first phase of the model, build, the author references major functions and activities that knowledge workers engage in, to make products and provide services. These activities include obtaining, analyzing, reconstructing (synthesizing), codifying, and organizing knowledge. Building knowledge starts with its acquisition through a variety of means, such as personal experience (experiential learning), formal education or training, and sources such as books, peers, etc. This is a form of learning, but knowledge acquisition also extends to analyzing the knowledge that is obtained, reconstructing it in different ways (e.g., as an executive summary report), codifying and modeling the knowledge (e.g., as in a conceptual map), and organizing the acquired knowledge (e.g., as a taxonomy). Analyzing knowledge often involves extracting meaning and value, such as abstracting, identifying patterns, discovering causal relations, and also verifying that the content is correct and valid. Some examples of the knowledge-building phase are conducting market research, competitive intelligence studies, synthesizing lessons learned, or documenting frequently asked questions (FAQs) in order to post them on a website. At an organizational level, knowledge acquisition can be done, for example, by hiring people or through research and development projects (Wiig, 1993).

The second phase of Wiig's (1993) model, hold, involves remembering, accumulating and embedding knowledge in repositories, and archiving knowledge. In other words, knowledge is internalized in the employees' minds or held in more tangible forms, such as documents and

archives. Computer-based repositories or scientific libraries can also be used to accumulate new

and archive old knowledge.

The third phase, pool, relates to the collective or group level of the organization and

refers to coordinating, assembling, accessing, and retrieving knowledge (Wiig, 1993). Forming

collaborative teams or expert networks represent ways of pooling the knowledge. Other

approaches involve the use of technological systems, such as portals or intranets. Knowledge

can also be pooled through social interactions, such as apprenticeships, brainstorming sessions,

and consulting with coworkers. A good example of pooling is the water cooler conversations

that helped knowledge sharing among groups at IBM. When IBM realized that there was always

unintended exchange of information and knowledge sharing whenever people met at the water

coolers, they placed water coolers in strategic areas around their building in order to encourage

and support knowledge sharing (Beccera-Fernandez, Gonzalez, & Sabherwal, 2004). Expertise

locator systems, a form of corporate yellow pages, can help employees find out 'who knows how

to do what,' by searching the database. Some other examples of approaches to pooling

knowledge include digital libraries or knowledge base systems.

Finally, the fourth phase, apply, refers to knowledge being used in order to generate

benefits. Wiig (1993) mentions the use of refined knowledge for routine tasks and more general

knowledge to survey exception situations. Knowledge can be used in the work context to

describe various scenarios and determine the scope of the problem at hand, either as

encapsulated knowledge or as knowledge that is applied to successfully complete the task. In

other words, knowledge is used to support observation, characterization, and analysis of a

situation. In addition, knowledge is used to support the synthesis and evaluation of potential

alternatives, make a decision as to what to do, and finally to implement a solution by executing

the appropriate tasks. One of the advantages of Wiig's (1993) model is that knowledge

processing is considered at three levels: the individual, the group, and the organization. The

four phases in Wiig's (1993) life cycle are discrete, but they need not necessarily be carried out

in order. Often, phases can be conducted in parallel and repeated as needed. Another strength of

this model is that it provides a more nuanced approach to the classification of knowledge to be

managed. This, in turn, enables practitioners to take a more pragmatic and refined approach to

maintaining knowledge, beyond the simple tacit vs. explicit dichotomy (Dalkir, 2011).

Meyer and Zack's (1999) KM life cycle focused more on the architecture of information

products, where they used the term information to include knowledge content. In their broad

definition of information products, Meyer and Zack (1999) include information circulated both

internally and externally, in electronic (i.e., information systems) or printed form. Information

products are not as directly observable as physical products, yet they exhibit similar

characteristics: they are 'part of product families, product and process platforms, and derivative

products' (Meyer & Zack, 1999: 46). The authors' model is based on an information-processing

perspective. Their assertion is that 'the product platform of an information products business is

best viewed as a repository comprising information content and structure' (Meyer & Zack, 1999:

47) and the content is what ultimately forms the substance of the information products.

The five information (knowledge content) stages of the Meyer and Zack (1999) life cycle

include: acquisition, refinement, storage/retrieval, distribution, and presentation/use. These

stages are not always followed sequentially and there can be feedback loops among them. The

acquisition phase refers to the gathering of information, with the caveat that the source data

should be of high quality, so that the downstream integrity of the life cycle is not compromised.

The authors refer to the adage 'garbage in, garbage out' (Meyer & Zack, 1999: 48) as a guiding

principle of this phase. The refinement phase, whether it's in a physical (e.g., translation of information between various media) or logical form (e.g., labeling or indexing the information), is the primary source of value added and can also include a process of cleaning and standardizing the information (Meyer & Zack, 1999). This phase creates value, not only through producing usable information, but also through allowing the information to be stored flexibly, in different formats and on different media. Some of the specific processes in this phase involve the analysis, interpretation, integration, synthesis, and standardization of information. However, the caveat of this phase is that, in creating flexibility, the information previously acquired may have to be converted into a more meaningful or useful format. The authors see the next phase, storage/retrieval, as a 'bridge between the upstream acquisition and refinement stages that feed the repository (product platform) and the downstream stages of product generation' (Meyer & Zack, 1999: 48). The next phase in the model is distribution, which entails the delivery of information and the timing and frequency of this delivery. The medium used for delivery can vary and may take electronic (e.g., email, radio, television, etc.) and/or print formats. The caveat of this phase is that medium and content are interrelated. For example, 'audio data must have a way to deliver audio signals' (Meyer & Zack, 1999: 48), which may impede on the flexibility of storage. The final stage of the model is the presentation/use, which, among other issues, addresses the characteristic of establishing the value of information (i.e., the value added) through the context of its use. Meyer and Zack (1999) assert that the ease of use (i.e., the quality of the presentation interface) is as important as the usefulness of information (i.e., the content being presented).

The Meyer and Zack (1999) model, while overlapping the Wiig (1993) model in terms of storage/retrieval phases, brings a significant contribution to the landscape of KM frameworks,

through the refinement phase. The authors were the first to introduce the notion of critically

assessing knowledge before allowing it to pass on to the next processing phase. Refinement also

describes a process of breaking down knowledge into its component parts (Evans, Dalkir, &

Bidian, 2014). An example would be to highlight and hyperlink only the relevant portions of a

document, rather than the entire electronic resource. The Meyer and Zack (1999) model also

places a greater emphasis on the distribution of knowledge primarily through technological

means, rather than simply referring to aggregating content.

In examining the above models, it is noted that they typically involve sequential

performance of the stages that they identify, with a prescribed sequence that is followed, and an

implied beginning and end. Among the first to introduce the notion of a cyclical sequence of

knowledge processing steps were Bukowitz and Williams (1999). In their model, there are

phases that are similar, if not identical, to those found in the both the Wiig (1993) and Meyer and

Zack (1999) models (e.g., get, which is the same as build and acquire; assess is similar to refine;

build/sustain is similar to hold and storage/retrieval; and contribute is similar to use/apply and

distribution). Furthermore, the get step in Bukowitz and Williams' (1999) model discusses a

similar guiding principle as Meyer and Zack's (1999) garbage in, garbage out – quality over

quantity. 'Knowledge repositories […] are not dumping grounds for every thought anyone in the

organization has ever had. They should be containers for knowledge that the organization […]

considers important and potentially useful to others' (Bukowitz & Williams, 1999: 76).

However, Bukowitz and Williams (1999) take this principle a step further in the use phase, by

asserting that, in using the information available, its effectiveness and efficiency are no longer

adequate enough. Innovation and out-of-the box thinking now become key elements in the

process of applying the knowledge to specific situations. Ideas must flow in and out of the

environment ('permeability'), crossing organizational boundaries and exposing knowledge workers to different perspectives and possibilities (Bukowitz & Williams, 1999). The organization can provide tools (e.g., processes and systems) that encourage collaboration and allow information to become an open resource that moves fluidly and dynamically throughout the organization. Furthermore, the build and sustain phase is distinguished by the addition of the term 'sustain' to highlight the importance of not only acquiring knowledge, but also making sure it remains valid, up to date, and usable.

One of the main contributions of the Bukowitz and Williams (1999) model is the learn phase, in which individuals learn from their experiences and organizations create an organizational memory. The authors also use the term contribute to describe the phase in which knowledge is acquired, in contrast to the get or acquire. The advantage is that the word 'contribute' better describes the voluntary nature of knowledge management, namely that employees must be motivated and encouraged to post (share) what they have learned to a knowledge repository or organizational memory. Valuable knowledge, that can serve to help coworkers, needs to be encapsulated. Perhaps more importantly, it is critical that knowledge not be completely separated from the people knowledgeable about that content, as there will always be added value in having someone advise, coach, or simply help others apply the content in the right context. However, learning from both successes and failures, improving the outcome of future projects by understanding how actions affect the outcomes of current projects, and encapsulating the added value gained through learning may not be easy to capture in a knowledge repository.

To further stimulate the voluntary sharing of knowledge, the organization can employ various systems and structures that support contribution, remove potential sharing barriers, and motivate and allow employees the necessary time to contribute their best work (Bukowitz & Williams, 1999).

McElroy's (2003) approach to creating a KM life cycle model was quite different than the previous models. The model starts with a phase called knowledge claim, which immediately requires a validation action, the knowledge claim evaluation. In other words, to be processed, all knowledge must first be deemed worthy, before proceeding further. It is this validation process, in the form of procedural or declarative rules, that results in the formal acceptance and adoption of new organizational knowledge (McElroy, 2003). A claim must be formulated and evaluated through the individual and group learning and acquisition processes. If the claim is found to be valid, the knowledge is then codified and circulated throughout the organization. If it is not valid, the knowledge is discarded. However, there is a third possible outcome – the claim is undecided. In this case, additional steps must be taken to further assess the usefulness of the content, and this process is repeated until a decision can be made. The second phase of the model, knowledge integration, relates to sharing and disseminating the newly validated knowledge. Knowledge is viewed as being held by both individuals and, collectively, by groups. Furthermore, this phase recognizes that knowledge will either meet the business expectations, or fail to do so. If there is a match, reuse will occur. Any mismatches will result in adjustments in the individual and/or the organizational behavior, which, in turn, result in more learning. However, it must be noted that these adjustments call for 'acts of willful transformation, both by the sponsor of the new [knowledge], as well as by the workforce that the changes affect' (McElroy, 2003: 76). Therefore, the integration of new knowledge implies 'the deliberate

abandonment of one set of operating rules in the favor of another' (McElroy, 2003: 76).

Recognizing the capacity to learn, innovate, adapt to change, and not mechanically apply

knowledge in practice is one of the main characteristics of the second-generation KM (McElroy,

2003). In double-loop learning (Argyris and Schon,1996; McElroy, 2003; Evans and Ali, 2013),

knowledge is no longer just a collection of reference rules that can be applied in response to a

situation; rather it is 'challenged', resulting in 'alternative scenarios in which we play out likely

outcomes' (McElroy, 2003: 70). The main purpose of this challenge (e.g., a knowledge claim

evaluation) is to test innovative ideas and potentially choose a different response path (which in

itself may evolve through time) that provides the best knowledge for the situation at hand. There

is also a need to constantly question existing knowledge. Along with incorporating the idea of

double-loop learning, the major contribution of this model is the inclusion of a phase in which a

conscious decision must be made as to whether knowledge should be processed through the life

cycle, until it is eventually incorporated into the organizational memory.

Dalkir (2005) investigated the above four life cycle models (Wiig, 1993; Meyer & Zack,

1999; Bukowitz & Williams, 1999; and McElroy, 2003) with respect to their scholarly adoption

and frequency of use by practitioners. Dalkir (2005) further set out to formulate an integrated

life cycle model that incorporated most of the elements of the above models. The intent was to

simplify the KM life cycle as much as possible by combining phases where possible and by

identifying key activities before linking them to major phases. The author's integrated life cycle

included the following phases: create/capture, assess, share/disseminate, contextualize,

apply/use, update. In this model, tacit knowledge must be 'created' or codified, while explicit

knowledge must be 'captured' or identified. To be more widely disseminated, knowledge must

then be assessed with respect to its degree of generalizability, interest and relevance to specific

target audiences, and general suitability. The next phase is about sharing (between people) and disseminating (typically using a technological platform). In order to optimize sharing and maximize reuse, knowledge must be contextualized. This will usually involve documenting metadata and providing supporting materials – anything from simple annotations to fully developed 'user manuals' – so that others may better understand how to make use of the knowledge. In the final stage, the knowledge is applied or reused in a work context. As this is a cycle, and not a sequence, it is important to ensure that the knowledge is sustained, which typically involves updating it and feeding it back into the cycle. The major contribution of Dalkir's (2005) integrated model is to highlight the similarities between the earlier life cycle models.

In 2009, Heisig took a more empirical approach to identifying KM activities used to manage organizational knowledge, which can be used to inform the construction of a new integrated KM life cycle model. Using a mixed methods approach, the author conducted a content analysis of 160 KM frameworks that have been proposed. Frameworks were identified through the scholarly literature, academic and practitioner conference publications (1998-2003), corporate KM initiatives, and Internet searches. The author also conducted a 'call for frameworks', using a direct survey targeted at KM professionals. The collected frameworks were published from 1995 to 2003, with more than half being published after 2001. In total, more than 165 unique terms were identified as KM activities in the frameworks. However, Heisig (2009) judged many of these terms to be essentially synonymous, and concluded that KM activities fell into six broad categories. Of these, the six most frequently mentioned activities included: use, identify, create, acquire, share and store. Notably, 73 percent of the KM framework activities examined were explicitly designed to manage knowledge (74 percent of

frameworks mentioned different dimensions of knowledge and 52 percent adopted different

knowledge dichotomies – e.g., tacit vs. explicit). The main strength and contribution of Heisig's

(2009) comprehensive review of existing frameworks is the breadth of analysis. More

interestingly though, Heisig was the first researcher to solicit and involve users (organizations

and KM practitioners) in the identification of KM frameworks and activities associated with KM.

This research makes a contribution to the life cycle literature, since Heisig's (2009) broad

categories of KM activities represent the most popular, practical, and coherent activities used,

from a practitioner perspective. The main limitation of Heisig's (2009) research was that there

was no distinct conversion of these activities into a KM life cycle, either cyclical or sequential.

Building on Evans and Ali's (2013) model, the Knowledge Management Cycle (KMC)

model (Figure 5) contains seven phases: identify/create, store, share, use, learn, improve, and

create (Evans and Ali, 2013).
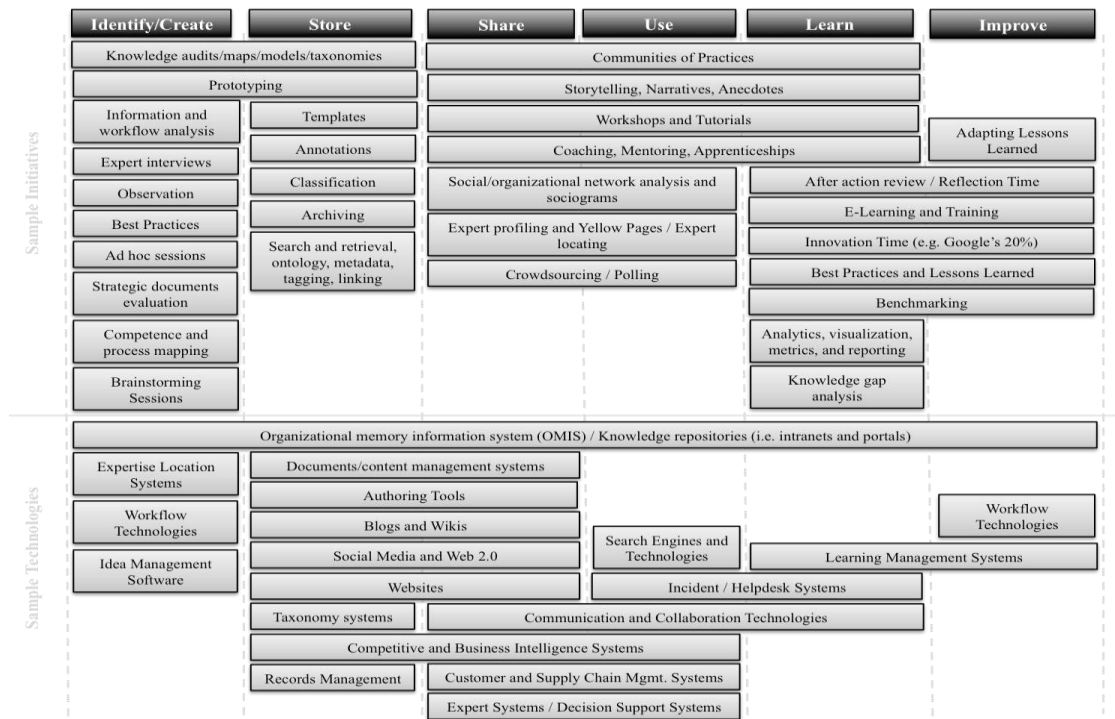
Figure 5 KMC Model Initiatives and Technologies (Evans & Ali, 2013)

Many of the activities shown in Figure 5 were highlighted as comparative elements in this study's focus on the utilization of private industry's KM approaches in the higher education arena.

When a request for knowledge is made, the searcher must identify if appropriate knowledge exists in-house, or if appropriate knowledge assets need to be created or acquired. This is one of the reasons why these phases are interrelated and grouped together in the KMC model. In some cases, the searcher may find that they will both identify existing appropriate knowledge assets and also have a need to create new knowledge assets (Evans et al., 2014).

Once the knowledge has been deemed valuable to the organization, based on the analysis and assessment in the identify phase, it is stored as an active component of the organizational memory. This may entail retaining more codified forms of knowledge into corporate portals and encapsulating knowledge artifacts and tools through prototyping. More tacit forms of knowledge may be stored in the form of knowledge audits, maps, models, and taxonomies. However, the repository cannot be a random collection of knowledge assets, regardless of their individual and collective value. Beyond their intrinsic value, knowledge assets must be stored in a structured way that allows them to be efficiently manipulated, retrieved, and eventually shared. Common related activities include metatagging, templating, annotating, classifying, archiving, linking, and optimizing search and retrieval (Evans et al., 2014).

Knowledge assets are retrieved from the organizational memory, to be shared (disseminated/communicated) both internally and externally. The timing and frequency of sharing can be either pre-established (e.g., immediately after the new/updated knowledge asset has been stored – similar to a 'push' approach) or in an ad-hoc fashion, based on immediate need (similar to a 'pull' approach). The process through which knowledge is shared is important, as

employees are seldom aware of its existence, particularly when new knowledge is created and stored (Evans et al., 2014). As Bukowitz and Williams (1999) assert, it is not uncommon for organizations to seek knowledge outside their boundaries, when in fact that knowledge may already exist. Having an explicit, dynamic, and flexible (Wiig, 1993; Meyer & Zack, 1999) network of expertise (e.g., community of practice) fosters collaboration and can greatly assist in the sharing of organizational knowledge assets. The sharing of more tacit forms of knowledge may be encouraged through coaching, mentoring, and apprenticeships programs as well as through (Swap, Leonard, Shields, & Abrams, 2001; Peroune, 2007). Storytelling is technology free and does not require investment in hardware or software as it is essentially about capturing tacit knowledge that resides in people's heads. "In knowledge management, storytelling serves two purposes: it can quickly disseminate information and convey meaning at a high level of understanding," explains Scott Smith, global executive for knowledge management at IBM Global Services, in an interview with Phillip Gill (2001). "The greatest benefit of using storytelling in KM may come from its ability to capture tacit knowledge, which many observers call the most valuable asset of an organization." The viewpoint of storytelling is also examined through the literature of Dave Snowden who has researched extensively on storytelling in the organizational context and within knowledge management. Snowden (2000) discusses storytelling circles, which are sensibly formed around groups with some degree of coherence and identity in the organization: it may be common past experiences in a project environment or a common job function or aspiration. The important factor is that the community has some common history or other reference from which they can draw anecdotes. This is a typical characteristic of communities of practice (COPs) in knowledge management.

It is also important to choose the optimum mix of technologies and dissemination channels, as various communication media have their own strengths and weaknesses (Dalkir, 2011). The choice of medium is not only a function of specific professional tasks (Dalkir, 2011), but also dependent on the KM maturity of the organization. The more mature the organization, the more efficient the medium, and the more timely the sharing of knowledge.

Once shared, knowledge assets can be used to solve problems, make decisions, improve efficiency, or promote innovative thinking. Knowledge assets can be used in encapsulated form (Wiig, 1993), but there will always be some degree of tacit knowledge that is applied. As Dalkir (2011) posits, codified forms of knowledge may not, by themselves, translate into understanding. For example, there may be some contextual information that has not been encoded or tacit knowledge that has not been encapsulated. Therefore, the intervention of an expert may be required to apply the knowledge correctly and efficiently. An example of such intervention would be taking a general document and making it specific for the problem that needs to be solved, which is referred to as 'recontextualization of knowledge' (Dalkir, 2011). The use stage is also key to internalizing tacit forms of knowledge. Some of the more common activities that assist in the use stage include developing communities of practice, workshops, and tutorials. The technologies employed in these activities include, for example, incident and help desk systems, expert systems, and communication and collaboration technologies. It is important to note that unless this phase is accomplished successfully, 'all of the KM efforts have been in vain, for KM can only succeed if the knowledge is used' (Dalkir, 2011).

The knowledge assets that have been shared and used in previous phases can also be used as the foundation for creating new and refining existing knowledge assets. The use of knowledge, particularly in situations where experts provide contextual understanding, leads to

employees gaining experience, as they interpret the impact of knowledge on their work environment (Evans and Ali, 2013). This phase involves deconstructing the knowledge blocks, integrating, connecting, combining, and internalizing knowledge. If knowledge assets are found to be valuable, based on the previously mentioned analysis and assessment criteria, they proceed to the improve stage in the KMC model, where further refinement and/or codification / encapsulation activities take place. However, if knowledge assets are judged insufficient (or incomplete), the searcher returns to the identify and/or create phase where additional knowledge assets are identified or created based on the gaps found. This iterative process of reflecting on the value and applicability of knowledge assets constitutes double-loop learning (Argyris & Schon, 1996; McElroy, 2003) in the KMC model. Existing rules are challenged and new knowledge assets are created, thus triggering the life cycle to begin all over again. Some of the more common activities that assist in the learn stage include benchmarking, best practices and lessons learned, and knowledge gap analyses. The technologies employed in these activities include, for example, learning management and help desk systems.

The learning that takes place in the previous phase leads to further refinement of the knowledge assets. New value is either identified or created from them and additions or updates are made to keep them current in the organizational memory and applicable to the organizational context. The knowledge assets are repackaged to be stored or referenced (in the case of more tacit forms) so that their value may be effectively leveraged in the future (Evans et al., 2014).

In the KMC model, improve is the decision point for knowledge assets to be archived, retired, or transferred outside the organization for further use. Some of the more common activities that assist in the improve stage include after action reviews, reflection time, and

adapting lessons learned. Technologies that assist in these activities include, for example, learning management and workflow technologies (Evans et al., 2014).

To summarize, the main contribution of the KMC model is that it provides a holistic view of the knowledge life cycle, by building on previous life cycles and Heisig's (2009) analysis of KM frameworks. It further extends previous models by including different knowledge forms, integrating the notion of second order or double loop learning, and associating some facilitating initiatives and technologies for each of its phases. The addition of the learn and improve phases ties in the value creation aspect of the knowledge life cycle more closely and provides more flexibility, allowing for feedback and reuse of different phases. The addition of the double loop learning highlights the learning and improving aspects and shows how the KMC model can lead to a cycle of continuous improvement. One of the major reasons to process knowledge is for individuals, groups and the organization itself to learn, to remember what it has learned and to leverage the collective expertise in order to perform more efficiently and more effectively (Evans et al., 2014).

Current Trends / Landscape in Knowledge Management

There are many trends that are currently populating the field of knowledge management: emerging technology solutions, the movement from limited knowledge management projects to more enterprise wide projects, and increasing use of tacit knowledge (rather than explicit knowledge) (Kidwell et al., 2000).

Emerging Technology Solutions

Lotus Notes, the software that packaged e-mail with data repositories and basic collaborative tools, was the first catalyst for knowledge management (Kidwell et al., 2000). Since the advent of Lotus Notes, most KM applications have morphed to those that live on the

web. Search and retrieval, e-mail, collaboration tools, and other options have all evolved and improved for the benefit of the end user.

The most recent application for knowledge management is the corporate portal—a gateway to applications that integrate collaborative tools, business intelligence, and unstructured text search capabilities. Portals started as a way to organize a variety of Web-based information sources on one desktop interface: a search tool, news feeds, links to favorite Web sites, content organized by topic, and so forth (Kidwell et al., 2000). A similar objective is associated with corporate portals: users can view a variety of data and information directly on their desktops. The corporate portal also serves as one example of private industry application in the higher education environment. For example, one major state university system is developing Web-based portals to deliver integrated services previously addressed in a very disaggregated fashion. The business objectives of the first portal—for the university's central administration—include institutional marketing, creating brand identity, building community with prospective students and parents, becoming the gateway for finding information about university resources and programs, and providing a rich information environment for decision making. The portal serves multiple functions for multiple customers with one tool (Kidwell et al., 2000). Louisiana State University provides a similar offering via myLSU, a web portal for LSU students, faculty, and staff toward consolidating campus services in one location, or dashboard.

From Limited Projects to Holistic Programs

As knowledge management matures as a corporate discipline, more organizations will gravitate toward a more holistic approach to KM. Research shows that although many organizations have begun to develop some sort of knowledge management capability, very few (6 percent) have implemented knowledge management programs on an enterprise wide scale.

Over the past two or three years, a company could be recognized as a best-practice exemplar of knowledge management by having a single successful initiative—for having developed a robust intranet, for instance, or initiating communities of practice or redesigning a core business process around knowledge sharing (Kidwell et al., 2000).

Advances in Working with Tacit Knowledge

As stated earlier in this study, explicit knowledge is a proverbial piece of cake when compared to tacit knowledge. The ability to manage tacit knowledge, on the other hand, promises to deliver huge returns for organizations that learn to use it effectively. The reason is that in the most valuable knowledge-intensive organizations, the difference between a good performer and the best performer is huge. And the difference that matters most lies in tacit knowledge: a deep understanding of how to act on knowledge effectively (Kidwell et al., 2000).

Despite these promising and forward-facing trends, the comprehensive literature review revealed an unexpected direction. Whereas a robust amount of research that consisted of KM principles, practices, and models could be found that was created in the 90's and early 2000's, the research seem to severely plateau. After delving deeper to confirm this discovery, additional research did exist, but it was very heavily weighted toward a techno-centric approach to knowledge management versus a person-centric approach. This conclusion was supported by Davenport (2015) who observed that knowledge management had previously ranked as one of the top 25 management trends according to Bain & Company's annual survey, but as of 2013, was no longer listed. Davenport provided several theories regarding the decreased interest in person-centric KM:

- It's hard to change behavior. Employees aren't interested in acquiring knowledge, others aren't interested in sharing what they know. Knowledge is tied up in politics and ego and

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culture. There were methods to improve its flow within organizations, but most didn't bother to adopt them.

- Many efforts devolved to technology. KM is a complex idea, but most organizations just wanted to put in a system to manage knowledge, and that wasn't enough to make knowledge flow and be applied.

- It's too time-consuming to search for and digest stored knowledge. Even in organizations where a lot of knowledge was contributed to KM systems—consulting firms like Deloitte and Accenture come to mind—there was often too much knowledge to sort through. Many people didn't have the patience or time to find everything they needed. Ironically, the greater the amount of knowledge, the more difficult it was to find and use.

- Google helped to kill KM. When people saw how easy it was to search external knowledge, they were no longer interested in the more difficult process for searching out internal knowledge.

To thwart continued movement in this direction, organizations must realize that it does no good to have robust technology solutions if the existing culture prevents knowledge sharing, and conversely that it does little good to have pockets of robust knowledge sharing without some technological means of making knowledge widely accessible. As organizations learn lessons about implementing knowledge management programs, they will hopefully discover the interdependent nature of KM capabilities. A balanced portfolio of knowledge management initiatives yields the best results and that excelling at technology-related capabilities does not preclude excelling at person-related capabilities (Kidwell et al., 2000).

Best Practices: Preventing Knowledge Loss

Several trends will shape the field of knowledge management in higher education in the not-too distant future: emerging technology solutions, the convergence of knowledge management with e-business, the movement from limited knowledge management projects to more enterprise wide projects, increasing use of knowledge management, to enhance innovation, increasing use of tacit knowledge (rather than explicit knowledge) (Kidwell et al., 2000). Some of these trends already manifest as best practices in the corporate arena. A top ten list was compiled by Best Practices LLC's and included in their report, "Knowledge Management of Internal Best Practices". The report includes performance metrics, as well as strategies and tactics of Fortune 500 companies:

1. Involve high-level executives in best practice forums to maximize transfer of good ideas throughout the company. To foster a feeling of a "boundary-less" culture where ideas and best practices are freely exchanged, General Electric has instituted a program called "Work-Out". A group of 40 to 100 people, picked by management from all ranks and several functions, gather at a conference center or hotel. The three-day session begins with a talk by the boss, who roughs out an agenda — to eliminate unnecessary meetings, forms, approvals, and other cutwork. Then the boss leaves. Aided by an outside facilitator, the group breaks into five or six teams, each to tackle part of the agenda. For a day and a half they list complaints, debate solutions, and prepare presentations for the final day. It's the third day that gives Work-Out its special power. The boss, unaware of what has been going on, comes back and takes a place at the front of the room. One by one, team spokespersons rise to make their proposals. By the rules of the game, the boss can make only three responses: he can agree on the spot; he can say no; or he can ask for more information — in which case he must charter a team to get it by an agreed-upon date

2. Establish multi-functional teams to identify best practices and increase employee buy-in for initiatives. To identify its best business practices, Johnson Control's Battery Division brought together 42 top managers and supervisors from all 12 plants and all functions and assigned them to five teams. Together they identified and consolidated the division's best practices. In the course of their best practices identification project, the division developed a set of 88 performance measures falling into five critical management areas. They included financial management, production, quality, transportation, and health and safety. Each job area has a handful of measures to monitor the progress of work efforts. The measures help employees to understand how well they are performing the best practices and how well they are performing relative to their peers in other plants.

3. Create regular forums for best practice sharing to create a culture of improvement. At the heart of the Wal-Mart culture are weekly Saturday morning meetings. At Wal-Mart's Saturday meetings, executives share best practices used by the company's other stores:

- Executives frequently find heroes among the associates in the stores and bring them to Bentonville, praise them in front of the whole meeting and find out how they were successful.

- They read management articles that may be relevant to the business.

- They talk about competitors, and how Wal-Mart can compete more effectively.

- They discuss things that seem unattainable, and "try to figure out how to make it work."

- They often have guest speakers from a wide array of fields. Guests have included Jack Welch, CEO of GE, boxer Sugar Ray Leonard, and country singer Garth Brooks.

- The meetings have an air of spontaneity that allows executives to discuss topics

they might not have felt appropriate in a normal meeting with an agenda.

4. Develop an evaluation system that clearly links best practice initiatives to corporate business goals and priorities. GTE Directories (now Verizon) has focused on integrating its best practice initiatives into corporate strategies and business priorities. One simple system to support integration is a project report format that requires every best practice team project proposed in its enterprise to demonstrate:

- How the project will support the organization's Four Business Priorities: Providing and demonstrating value, building business relationships, enhancing customer service and improving cost-effectiveness to enhance competitiveness;

- How it will support key operating strategies;

- How it will support the company's operational growth goals.

5. Adopt a systematic approach to ensure knowledge management supports strategy. Dow Chemical uses a six-step process for managing intellectual assets. It begins with a focus on strategy:

- Define the role of knowledge in your business - for instance, the importance of intellectual investments to develop new products, vs. brick-and-mortar spending to achieve economies of scale.

- Assess competitors' strategies and knowledge assets.

- Classify your portfolio: What do you have, what do you use, where does it belong.

- Evaluate: What are your assets worth; what do they cost; what will it take to maximize their value; should you keep them, sell them, or abandon them?

- Invest: Based on what you learned about your knowledge assets, identify gaps

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you must fill to exploit knowledge or holes you should plug to fend off rivals, and either direct

R&D there or look for technology to license.

- Assemble your new knowledge portfolio and repeat the process ad infinitum.

6. Archive personnel profiles to identify internal sources of knowledge and competitive

intelligence. AT&T employs a database system that can be described as a "sophisticated

electronic Rolodex." Known as the AAA system, this database contains one-page personnel

profiles that can be used to direct employees to people and information sources that may help

them in their knowledge management, competitive intelligence, and best practice efforts. These

profiles include information about each person's knowledge of companies, products, regions, and

languages. Each AT&T employee supplies information about himself or herself.

7. Recognize internal experts to encourage sharing of best practices at all levels. Harris

Corporation appoints individuals as "certified practice experts" in various knowledge areas. An

important aspect of this system is giving workers recognition for their efforts. Harris recognizes

its employees with what it calls "walls of fame" — areas in each department where photos of

workers who have made a contribution in the area of intellectual capital are on display. Harris

believes that public recognition of contributions increases the incentive to participate in

knowledge and practice exchange

8. Create a best practice library to guide personal development plans. Pella Corporation has

compiled a best practice library (a collection of highly recommended actions) based on the

practices and performance of successful Pella distributors across the country. By comparing

current practices to those best practices outlined in the library, a Pella distributor self-evaluates

his business's strengths and areas for improvement. To make this best practice library even more

useful, Pella provides its distributors with easy to build self-improvement guides that help

distributors develop personal improvement plans. By noting the changes from one assessment to the next, a distributor can tack his progress over time. Called Blueprint for Success, Pella's documented best practice standards are challenging, incorporating the most effective practices from a number of highly successful distributorships. Pella's best practice library guide is divided into two parts. The first section, called Best Practices, helps the distributor chart his performance against the practices and performance of successful Pella distributors. The second section, called Action Planning, helps prioritize improvement efforts based on the results of the Best Practices evaluation.

9. Store knowledge in databases and intranets to provide greater company access to information. Booz-Allen & Hamilton, a global management consulting firm, maintains a Knowledge On-Line (KOL) system (an intranet accessible by the Netscape browser). KOL makes it easy to tap experts and ideas regardless of geography or specialty. For example, a consultant in Indonesia helping an oil company improve customer service might want to tap into previous knowledge developed by colleagues in Caracas, Houston, or New York. With a laptop and a phone line, employees can log onto KOL. One icon that appears on the screen is tagged Experts/Resumes/History; by typing a name or a key word, the system delivers a specific colleague's resume or a stack of resumes of consultants who know about the key word subject. Another icon is simply tagged Knowledge. Behind it are various databases that contain about 1,500 documents (the number is growing rapidly), cross-filed by industry and topics, such as reengineering, marketing, and change management. Also available online are various bulletin boards, discussion forums, and training courses.

10. Create profiles of top sellers to encourage others to institute their best practices. To evaluate the operating performance of its sales force, W. R. Grace North America has developed

a profile of the company's top sales performers. The profile details a set of best practices that make these superstars successful. It includes how many calls they make per day, what they said to customers, how they built relationships, and their level of product knowledge. The identification of a best practices model provides W. R. Grace with two important benefits. First, it serves as a benchmark to measure the performance of all the company's sales people, who now know exactly what is expected of them. Secondly, the knowledge and techniques of the company's best salespeople are captured and documented so that they can be shared and applied throughout the entire organization to enhance its overall capability.

CHAPTER 3: METHODOLOGY

While there are more empirical than non-empirical works in the literature using a range of data collection methods, there is a marked deficiency in the application of qualitative research methods. Qualitative research, the approach selected for this study, allows the researcher to more fully describe a phenomenon. "If you want people to understand better than they otherwise might, provide them information in the form in which they usually experience it" (Guba and Lincoln, 1985, p.120). Although interviews are one of the most commonly used methods of data collection, it has not typically been employed when researching topics related to knowledge management. Selecting interviewing as the data collection method not only serves to augment the occurrences of this type of data collection, it was also deemed the most appropriate for this study.

The study was conducted in the form of a series of semi-structured interviews with the following participant profile: past or present deans of a public RU/VH institution (Research University with Very High research activity as defined by the Carnegie Classification of Institutions of Higher Education) in the southern portion of the United States. The objective was to study the perceptions and perspectives of those deans regarding the usefulness and value of implementing knowledge management best practices typically employed by businesses in the private sector.

Qualitative Research

Qualitative research methods include deriving data from interviews, documents, and images for interpreting conditions on the basis of the meanings given by research participants. The goal of qualitative interview research is a purely descriptive approach that allows the participant's perspective to become apparent. By refraining from the imposition of preconceived

theoretical constraints, qualitative interview research allows the full significance of human behavior to emerge. As illustrated in Figure 6, qualitative data gathering methods are designed to let issues emerge during and after the data-gathering process. Using qualitative interviews allows for more accurate identification of areas for further study using experimental and statistical methods (Seidman, 2006).
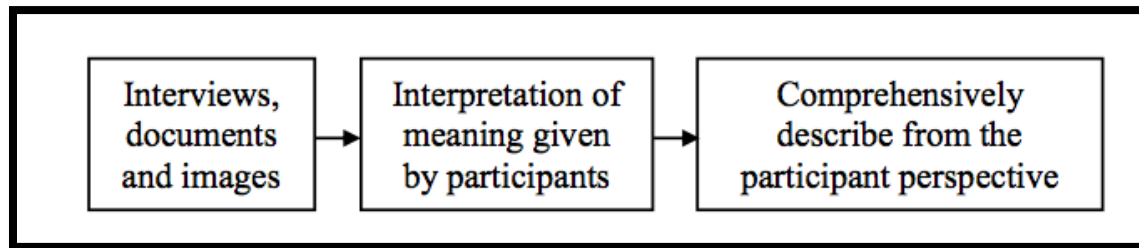
Figure 6 Process Chart Illustrating Emerging Issues in Qualitative Interviews (Seidman, 2006).

Creswell (2013) identified five types of qualitative research: (a) narrative, (b) grounded theory, (c) ethnography, (d) case study, and (e) phenomenology. A narrative approach was not selected to analyze this study given that it was not the researcher's objective to focus on the ways that the subjects made and used stories to interpret the world, or more specifically, the environment in question. Given that it was not the researcher's intent to develop theory about a particular phenomenon, the grounded theory approach was not chosen. Likewise, it was not the purpose of this study to describe the culture of a group over time in order to understand the group's shared beliefs, behaviors, and language, an ethnographic approach was not taken. Because the study did not include all deans at any one institution, the case study approach was not inappropriate for this investigation. However, because it was indeed of great interest within this study to focus on the participant's subjective experiences and how they interpret or perceive those experiences, a phenomenological approach was selected as the most appropriate option.

The phenomenological study used in-depth semi-structured interviews as the means of data collection because of two primary considerations. First, they are well suited for the

exploration of the perceptions and opinions of respondents and they enabled probing for more information and clarification of answers. Second, the varied professional, educational and personal histories of the group precluded the use of a standardized interview schedule (Barriball & While, 1994). Seidman (2006) introduced in-depth interviewing using a combination of questions relating to participant life history (e.g., background, experience and academic degrees) followed by mainly open-ended questions relating to the problem being studied. The focus on the interviews, in keeping with the aims of phenomenological research, was theme rather than person related. In other words, the interview sought to understand and describe the meaning of the central themes of the experience.

Qualitative Validity

The school of thought exists with some qualitative researchers that the framework of validity has no place in qualitative research. This position is based on the assumption that there is a reality external to our perception of it. Consequently, it doesn't make sense to be concerned with the "truth" or "falsity" of an observation with respect to an external reality (Guba & Lincoln, 1994). As such, those researchers propose a different set of quality standards. Guba and Lincoln (1994) proposed four criteria for judging the soundness of qualitative research and explicitly offered these as an alternative to more traditional quantitatively oriented criteria. They felt that their four criteria better reflected the underlying assumptions involved in much qualitative research. For this study, credibility replaced internal validity, transferability replaced external validity, dependability replaced reliability, and confirmability replaced objectivity (Guba & Lincoln, 1994).

Credibility involves establishing that the results of qualitative research are believable from the research participant's perspective (Mertler, 2015). In order to establish credibility for this study, participants were offered the opportunity to review the transcripts.

Transferability refers to the extent to which qualitative research results may be generalized or transferred to other situations or surroundings (Mertler, 2015). In qualitative study, assessment of transferability is mainly the duty of the one doing the generalizing (Guba & Lincoln, 1994). In this study, transferability was addressed by a thorough description of the context of the research and the assumptions of the research. Based on this description, future researchers may assess transferability in a different context.

The concept of dependability stresses the need for the investigator to provide an ongoing description of changes in the research environment and the effect these changes have on the way study is performed (Guba & Lincoln, 1994). Dependability of the results of this research was accomplished by providing a full account of the context in which the research was conducted, and a full account of any changes in the way this research was performed.

Confirmability addresses the extent to which the results of a study may be confirmed or verified by others (Guba & Lincoln, 1994). In this study, confirmability was addressed by documenting procedures for verifying data throughout this investigation. After the investigation, data collection was audited and the potential for bias or distortion was assessed.

Consistency relates reliability within and across interviews (Mertler, 2015). Creswell (2013) commented that perhaps the most important step in completing an interview is keeping the interview grounded to the interview questions. Adhering closely to the interview questions throughout the interview optimizes the consistency of outcomes within and across interviews and

therefore optimizes reliability. Hence, the researcher grounded each interview to the interview questions.

Phenomenological Studies

A phenomenological study examines lived experiences through the descriptions shared by the participants of the study. In this type of research, participants are asked to describe their experiences as they perceive them, typically through interviews. A phenomenological study does not aim to explain or discover causes; instead, its basic purpose is to reduce individual experiences with a phenomenon to a description of the universal essence (a "grasp of the very nature of the thing," van Manen, 1990, p. 177). While there is a diverse set of various approaches to phenomenological study, what they all have four core characteristics that hold across all variations: the research is rigorously descriptive, uses the phenomenological reductions, explores the intentional relationship between persons and situations, and discloses the essences, or structures, of meaning immanent in human experiences through the use of imaginative variation (Giorgi, 1989).

The phenomena could manifest in any number of ways; typical questions posed in such a study could include, "What was it like to endure such a debilitating physical illness?," "If you were bullied as a child, what did it feel like?," or "What did it feel like to lose your job?" The researcher then collects data from the individuals who have been selected because they have experienced the phenomenon and develops a composite description of the essence of the experience for all of the individuals. This description consists of "what" they experienced and "how" they experienced it (Moustakas, 1994). Not only are the reactions and behaviors included in the data, but also the thoughts, impressions, feelings, interpretations, and understandings of the participants' experiences.

Two main frameworks exist that represents the different schools of phenomenology: descriptive and interpretative. Edmund Husserl, considered the founding father of phenomenology, pioneered descriptive phenomenology where everyday conscious experiences are analyzed as provided by participants and are then subsequently divided into meaning-laden statements or themes. This is an ideal method to use when little is known about an issue and the aim of the study is to make clear and understand the most essential meaning of a phenomenon of interest from the perspective of those directly involved in it (Giorgi, 1997). In contrast, in the interpretive method, the researcher does indeed seek to interpret, using his or her prior knowledge and insights to uncover hidden meanings with the goal of producing a vivid textual representation of the phenomenon described (Kleiman, 2004).

This study adopted the former approach, descriptive phenomenology, to complete its data analysis.

Data Collection

There are two main approaches to collecting data for any qualitative study; they are interviews and observation. There are many forms of interviews that may be used in qualitative research (Brinkmann and Kvale, 2014), but the types most commonly used in phenomenological studies are in-depth, unstructured (or sometimes semi-structured) interviews. This approach allows the researcher to explore an issue in depth by tailoring their questioning according to how the interview is progressing, resulting in a richer, fuller understanding (Brinkmann and Kvale, 2014). Open-ended questions are used to encourage the participant to take the interview in a direction that they deem important versus the more rigid path of a structured interview, which follows the direction set by the interviewer.

The procedure for collecting data for this study included recorded face-to-face interviews, transcription of recordings, participant review of transcription, and participant reflection on themes emerging from initial transcript analysis.

An Institutional Review Board (IRB) request was necessary to gain approval for the interview process. All interviews were scheduled within a reasonable short time period in an effort to avoid the respondents discussing their interview experience. In the event this is not possible, the respondents would have been asked not to engage in discussion with other respondents. With respondent consent, each of the interviews was captured using a digital audio recorder. The words of caution by Easton, McComish and Greenberg (2000) that equipment failure and environmental conditions might seriously threaten the research undertaken, was taken into account. They advise that the researcher must at all times ensure that recording equipment functions well and that spare batteries, tapes, and so on, are available. Therefore, as a safeguard, a second recording device was used as backup and all interviews were scheduled either by phone or in a quiet office.

During the interview, mental notes of verbal transitions were made when the researcher sensed that more could be said about something or when the participant incidentally veered away from which naturally occurs when people are speaking. When the participant reaches a point that he or she has said all that can be said spontaneously, one or more follow-up questions were asked like, "You spoke about such and such, can you tell me more about that?" (Giorgi & Giorgi, 2003). The follow-up questions are not purposefully "leading" in the sense of trying to "pull out" of the participant particular information of a kind. Rather, it is an interviewing technique intended to "re-open the door" to an aspect of the account that was presented but not fully and expressly described by the participant.

Upon completion, each interview was transcribed and coded using nVivo for Mac, Version 11. This software facilitates the organization and analysis of qualitative data such as interviews. Each file was assigned a code, e.g. "Respondent 1_MMDDYY." As soon as possible after each interview, each session was reviewed and any additional field notes were made, highlighted any key words, offhand comments, gestures, pauses, or facial expressions; Bailey (1996) emphasizes the use of all the senses in making observations. Field notes are a secondary data storage method in qualitative research. Because it's possible not to recall all components of the interview, field notes by the researcher are crucial in qualitative research to retain data gathered (Lofland & Lofland, 1999). Lofland and Lofland (1999, p. 5) emphasize that field notes "should be written no later than the morning after". Four types of field notes can be utilized:

- Observational notes (ON): 'what happened notes' deemed important enough to the researcher to make;

- Theoretical notes (TN): 'attempts to derive meaning' as the researcher thinks or reflects on experiences;

- Methodological notes (MN): 'reminders, instructions or critique' to oneself on the process.;

- Analytical memos (AM): end-of-a-field-day summary or progress reviews.

Prior to analyzing the transcribed text, all information or references that would have revealed the participants' and other people's identities, places or things that could make such identities easily known was "scrubbed" or replaced with pseudonyms or other fictitious representations.

Emerging themes and patterns were then sought amid the transcription. Based on a review of the initial analysis, the researcher performed respondent validation, a method that entails the submission of materials relevant to an investigation for checking by the people who were the source of those materials. To minimize researcher bias during respondent validation, the researcher avoided interference with this process by allowing participants to review these transcripts independently.

To maintain organization during the study, a conscious effort was put forth to keep all collaterals in order and accessible. An electronic folder was created, along with subfolders that contained the following:

- All interviews;

- All consent forms;

- Notes captured during the interview;

- Field notes made after each interview;

- Any documents that the participant offered during the interview;

- The draft 'transcription' and 'analysis' of the interview that I presented to the participants for validation;

- The confirmation of accuracy received from the participant about the 'transcript' and 'analyses' of the interview;

- Any additional/subsequent communication between the participant and myself.

As a final step to the interview process, all respondents were sent a follow-up letter to thank them for their time.

Sampling Procedure

There are several schools of thought regarding what comprises the ideal sample size for phenomenological research. Common with many qualitative studies, the sample used in this type of research is often a convenience sample; that is, people who are easily generally accessible or that the researcher possesses the ability to gain easier access. This is illustrative of the setting for this study given the researcher's access to the majority of the participants. Because this type of research does not seek to be generalizable, it is not necessary for the sample to be representative of all type of people who have experienced the phenomenon in question.

This study did not use probability sampling. In a qualitative study, random sampling cannot occur because interview participants must consent to the interview process, and could therefore be considered self-selecting (Creswell, 2013; Moustakas, 1994). In addition, randomness is a statistical concept that depends on a large number of participants, while fewer participants are typically included in a qualitative study. Therefore, random sampling was not relevant in this study.

According to Ellis (2006), a sample of between 6 and 20 individuals is sufficient. Based on his position, a minimum of six interviews was planned until saturation was reached (unless saturation was reached at six). Twelve former or current deans were identified that met the criteria, but saturation was reached at the eighth interview.

Participants for this study were selected based on their leadership positions in the administration at the selected institution, each were interviewed, in part, to determine their awareness and perception of knowledge management. Participants were asked to be accessible to the researcher for interviews based on their experiences related to the problem being studied. These requirements fit the description of convenience and criterion sampling (Creswell, 2013).

Instrumentation

In qualitative research, the researcher is considered the instrument of data collection (Denzin & Lincoln, 2003). It is the researcher who creates context from the data gathered through the interaction with participants. It is the researcher who watches and documents salient points to subtle cues. It is also the researcher who ultimately draws meaning themes and connections through data interpretation.

In an effort to find existing interview questions that could be modified for the purpose of this study, a search of doctoral dissertations written in the last five years within the Proquest Dissertations and Theses A&I database was conducted using the following search terms within the abstract: (a) knowledge management, (b) higher education, and (c) retention. Only one relevant result was returned, "The Retention of Tacit Knowledge in Higher Learning Administration" by Andrew Everardo Muniz (2013). As stated in his dissertation, the instrument used by Mr. Muniz was piloted and reviewed to address validity and reliability concerns. Muniz's interview questions were modified to fit the premise of this study and were then be forwarded to the participants prior to the interviews.

The interview guide, shown in Table 1, was created using several research questions as the basis for the questions that would be posed to the respondents.

In preparation for the interviews, all participants were sent an email requesting their participation, a consent form for a non-clinical study, and the interview questions. Research indicates that keeping an interview to one hour is optimum for sustaining the attention of participants in competition with their other roles and responsibilities (Cresswell, 2013).

Table 1 Interview Guide

Research Question (RQ)	Interview Question (IQ)
RQ1: What level of awareness exists of the impact of knowledge management in higher education administration?	IQ1: What is your level of awareness of the impact of knowledge management in higher education administration? IQ2: If you've served in a similar role at other universities, how does this university compare as it relates to an awareness of the impact of knowledge management? IQ3: What is the importance of the application of knowledge management strategies as it relates to the success of your college/school?
RQ 2 - What methods exist for capturing and sharing knowledge?	IQ1: Describe the formal knowledge management practices that are currently in place in your college/school to capture explicit knowledge. IQ2: Describe the formal knowledge management practices that are currently in place in your college/school to share explicit knowledge. IQ3: Describe the formal knowledge management practices that are currently in place in your college/school to capture tacit knowledge. IQ4: Describe the formal knowledge management practices that are currently in place in your college/school to share tacit knowledge. IQ5: Explain the impact of these practices on succession planning in your college/school. IQ6: Explain the impact of these practices on succession planning associated with your position. IQ7: Describe the significance of the capture and sharing of knowledge when determining ease of onboarding into a a senior administrative position. IQ8: Describe the degree that access to explicit and tacit knowledge played in your onboarding process as a senior administrator.
RQ3: Can knowledge management strategies practiced in private industry translate successfully in the higher education arena?	IQ1: What is your explanation of why knowledge management practices are more readily used in private industry? IQ2: What is your perception of whether or not each of these 10 practices[1] would work in your college/ school?

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[1] See Appendix A

(Table 1 continued)

Research Questions (RQ)	Interview Questions (IQ)
RQ4: What elements exist in the administration of higher education that either support or prevent the retention of institutional knowledge?	IQ1: What elements exist in the administration of higher education that either supports the retention of institutional knowledge? IQ2: What elements exist in the administration of higher education that either prevents the retention of institutional knowledge? IQ3: Which of these ten obstacles[2] serves as the most prevalent Reason for impeding the success of knowledge management practices in your college or school? IQ4: What strategies would you use to overcome these obstacles?

In preparation for the interviews, all participants were sent an email requesting their participation (See Appendix C), a consent form for a non-clinical study (See Appendix D), and the interview questions. Research indicates that keeping an interview to one hour is optimum for sustaining the attention of participants in competition with their other roles and responsibilities (Cresswell, 2013). Should the participant be open to do so, the conservative one-hour time frame also allows the interview to last longer in the event any questions remain unaddressed. During this study, the duration of interviews and the number of questions varied from one participant to the other.

Data Analysis Using the Phenomenological Method

Several noted methods exist that offer instruction in how to analyze data associated with phenomenological research. Following a critical review of several available methods, all which are founded in Husserl's principles (Adrian Van Kaaam, Amedeo Giorgi, and P.F. Colaizzi), the most fitting was the method devised by Giorgi. Several reasons support this decision: 1) Giorgi (1977) focuses on descriptions of experiences and follows the Husserl tradition, 2) The method

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[2] See Appendix B

does not require the adherence to certain fixed criteria (for example, Van Kaam (1966) advocates that a large sample population is drawn on), and 3) Giorgi has analyzed and developed Husserl's phenomenological approach and his method includes a data analysis process.

Because Husserl was a philosopher, Giorgi needed to modify Husserl's method to be useful for psychology. The resulting method can be captured in four succinct steps. Step 1 calls for the researcher to assume the phenomenological attitude. To accomplish this, the researcher determines what their expectations are regarding the outcomes of the study and then proceeds to "bracket" or "epoché" (a Greek word meaning to stay away from or abstain) them, i.e. suspending any judgment, presuppositions, or positions. Doing so will increase the likelihood that the researcher will be able to see the experience from the eyes of the person who has lived the experience. For example, if the question "What is it like to be the CEO of a Fortune 500 company?," one might assume that the role would be both daunting and challenging. These feelings would need to be suppressed in order to really hear what the CEO is saying and also what the individual may not be saying. One might find that the role is indeed challenging, but for completely different reasons than assumed.

The second step in the data analysis requires that I read the entire "naïve description" to get a sense of the whole experience (Giorgi, 2009, 1985; Giorgi & Giorgi, 2003). This step involves reading all transcripts carefully to obtain a general knowledge of the phenomenon and to familiarize one's self with the participant's language and voice.

The third step in the data analysis is the demarcation of "meaning units" within the narrative so that the data can be dealt with in manageable portions (Giorgi, 2009, 1985; Giorgi & Giorgi, 2003). Meaning units typically have the following characteristics (Ratner, 2002):

- They must be coherent and distinct from other ideas.

- The composition can range from one word to several sentences.

- It must preserve the psychological integrity of the idea being expressed.

- It must neither fragment the idea into meaningless, truncated segments nor confuse

it with other ideas that express different themes.

To demarcate the meaning units, each was highlighted and labeled using numerical superscripts. According to Giorgi (2009), how or where the meaning units are delineated is not absolute. Different researchers may delineate the meaning units in different places in the same data. However, the same or different the meaning units may be among researchers, it is the results that are important to the overall quality of the analysis (Giorgi, 2009). Staying true to Giorgian principles, no interpretation of the meaning of said themes was sought at this point.

Once the meaning units have been identified, the fourth step is to establish central themes. As needed, the themes are re-expressed in the third-person while remaining faithful to the meanings expressed by the participant. The change to the third-person language does not change the meaning content, but assists the researcher in remaining in the phenomenological attitude by not being empathetically drawn to the participant's natural attitude (Giorgi, 2009). Taking each theme in its third person form, the research transforms it into a statement that expresses its essential psychological meanings.

CHAPTER 4: RESULTS

This chapter represents the results gathered from intensive interviews conducted with those that fit the following participant profile: past or present deans of a public RU/VH institution (Research University with Very High research activity as defined by the Carnegie Classification of Institutions of Higher Education) in the southern portion of the United States.

The selected approach to analyze the data was Giorgi's phenomenological method, which assisted in producing meaning units and subsequent central themes. Direct quotes were frequently noted in order to allow the participants to speak for themselves. As Mathews (2005) stated "the hallmark of qualitative research data is that those who are studied produce them" (p. 800). The resulting central themes gleaned from the eight interviews were:

- There is a general lack of awareness of the specific term, knowledge management;

- Deans understand the conceptual value of knowledge management and are open to employing its practices in their college, but are resistant to doing so as it relates to their job responsibilities;

- A cultural misalignment exists between the higher education environment and private industry;

- The human resource is a highly valued commodity in higher education.

- Knowledge management practices are siloed and limited in scope;

- Obstacles exist that thwart the growth of knowledge management in higher education.

Central Themes

Theme 1. There is a general lack of awareness of the specific term, knowledge management.

Colleges and universities are certainly in the knowledge business; one might even consider them to be manufacturers of knowledge. It seems viable that there would subsequently be a high level of awareness and recognition about knowledge management. The study revealed that although most of the respondents had not heard of the term, they were generally aware of the concept. This is understandable given that most of the progress in the knowledge management arena has been shouldered by corporations and other for-profit organizations. This lack of awareness was not placed in a negative light; the assumptive position was taken by most that knowledge management was a term resigned for private industry usage, a buzzword even. However, although not seen as negative, pigeonholing the term as one that belongs in the private sector could discourage efforts to learn more about the concept and its impact in higher education.

> Respondent 4: This is the first time that I've heard the term "knowledge management". As deans, we are primarily grounded in our disciplines, so research related to administration doesn't get as much attention. Administrators are certainly cognizant of the theoretical construct behind knowledge management, but not so much if labeled with the title of knowledge management.

> Respondent 5: The phrase knowledge management was very foreign to me. Although after receiving your definitions and after doing some quick research, I understood very quickly what it was. There are a lot of things that are common knowledge in the private sector that are not in academia and vice versa. So I chalked it up to that.

> Respondent 3: I actually have heard the phrase in part because we have a couple of researchers in one of our departments who focus exclusively on knowledge management. Additionally, my predecessor was a big supporter of knowledge management and recognized the importance of passing on knowledge pertaining to the office.

> Respondent 6: Very little awareness. It seemed like a very vague, squishy term. But dialoguing with you about it now, I really see the power of it.

One of the respondents was very informed about knowledge management, but

acknowledged that this was an anomaly:

> Respondent 8: I'm very familiar with knowledge management. For about 2 or 3 years during my academic studies, I did a lot of work with regard to knowledge management in the sense of capturing it for eventual automation. You could routinize some of the decision-making; you could focus the application of knowledge on the areas with the greatest uncertainty. So if you were looking at the portfolio of the knowledge and then applying that in some way, those routinized decisions could be addressed by an employee that isn't paid quite as much or in an enterprise system without having to make a yes or no decision or deal with exceptions. So to get there, the first step is how to you get the knowledge from the individual. However, if I had to rate this institution's overall awareness of knowledge management on a scale of 1 to 10 (10 being a high level of awareness), I would give it maybe a 3. There is a fairly minimal awareness of knowledge management in higher education and possibly a lesser degree of its practice.

Theme 2. Deans understand the conceptual value of knowledge management and are

open to employing its practices in their college, but are resistant to doing so as it relates to

their job responsibilities.

Whether the realization occurred during the interview process or whether it existed prior

to, all deans that were interviewed wholeheartedly agreed that the capture, dissemination and

subsequent transfer of knowledge management, both explicit and tacit, was of value in their

respective colleges:

> Respondent 1: Knowledge management definitely has a place; I especially feel the absence of the management of explicit knowledge. It is pervasive across the university and certainly in my college and I'm trying to change that. For example, the policies and procedures associated with hiring procedures in higher education are very haphazard; there doesn't seem to be a clear set of guidelines to allow us to hire efficiently and timely. It seems to me that a process should have been outlined and captured at the beginning so that you'll know exactly where you're headed before you start the search. All of the parameters should be in place. That's an example of the lack of captured knowledge, at least as it relates to the hiring process, and I see that throughout other processes, e.g. purchasing. I've been trying to make a fairly major purchase for eight months. Instead of relying on an identified process, I have to call someone and state "Can you do me a favor?" rather than here's the procedure, here's the time that it will take, here's the responsible person, etc.

Respondent 2: There is a critical need for this given that it would provide insight to inform us when the industry is headed for trouble, which further informs that cutbacks may be needed. Higher ed is one of the few arenas that I know of where even top trusted people in the institution couldn't tell you what the balance sheet looks like. So if I were sitting here with a legislator, I would have trouble making a case against budget cuts. Having said that, there is a certain luxury, a blissful ignorance if you will, in not knowing where you are, e.g. financially.

Respondent 4: There is certainly a basis for having policies and procedures in the college. One of my phrases around the office is "Process in your friend." We often hear "We've always done it that way" or "When so and so was here, they didn't like it that way, so they changed it to this way." Certainly this happens as a function of turnover, but we should instead say, "Let's step back from that and take what everyone understands about the particular policy or procedure and let's create best practice." Here's an example that illustrates when we got it right, even though we didn't start out that way. Our college was given a sum of money associated with a student excellence fee and I was responsible for determining how the money would be spent. I don't pretend that I have all of the knowledge necessary to make that decision, so I put together a committee comprised of representatives from each department. I also said to the faculty to submit proposals for the dollars given that they are on the frontline and can best relay what would result in the richest classroom experience for our students. Proposals were submitted, reviewed and approved by the committee. When we reached the point when it was time to create a budget for the proposals, our business manager was about to pull her hair out! While we all agreed this was a great idea, it had never been done before and she didn't have the information she needed in order to do her job. So we went back and did a better job of documenting the decision making process, creating a spreadsheet that outlined the request and all supporting documentation (e.g. why a request wasn't approved, the justification behind those that were). Doing this on the front end would have alleviated a lot of headaches on the part of our business manager.

However, there was a clear line of demarcation between the desire for a greater KM presence within their college's departments and the lack of desire for the same as it related to the dean's specific responsibilities. When asked if they would want access to information from their predecessors that would assist in the transition to the position of dean, each of the deans, with the exception of one, viewed having access to information (e.g. a repository of information or binder) detrimental and unacceptable, opting instead for a clean slate approach:

Respondent 2: For what it's worth, the previous dean was available, although those conversations were not rooted in the topic of "how to be a dean". I was provided with two sets of documents: a thick file of every note/memo that had been written to the various provosts (although I've still not looked at it) and a box of files (that I've also not looked at).

Respondent 4: For individuals who aspire to be a dean, you have to have a certain amount of ego, some ambition. And while you want to be respectful of the person before you, you're taking the job because you think you can do it better. The individuals in this position are wicked smart people who think they know better than most people. They might be resistant to accessing any sort of knowledge base or repository because individually or with the right group of people, we can figure it out and possibly come up with a more ideal outcome. I'll take the clean slate.

Respondent 7: There is a barrier that comes to mind that you didn't mention directly and I think it is a part of the higher ed culture and that is that we are a bunch of experts. While that is a broad generalization, we can tend to be overly self-reliant and sometimes hypercritical of other ideas; I find that fairly common. It comes from people feeling like "We're smart." "We probably have better ideas than what's already out there," and basically we can figure it out. So it's a bit of...conceit?

Respondent 6: My perspective is "You're the dean now and you need to make your own choices." I would imagine that any predecessor would feel that a clean break was good and would not going to try to insert themselves into what you're doing, so go forth and conquer.

Respondent 5: I'm not sure that I would have. I definitely would have wanted to participate in the construction of such a binder, but not have it just handed to me on Day 1. I think that the reason I and other deans are chosen for this job is because they knew we'd be able to hit the ground running and have internal strengths.

Respondent 7: If I were asked if I'd prefer to come into a situation where everything I needed to know was covered in a manual, I'd have to say no.

Respondent 8: No, because again, the difference in good vs. great is going to be in your ability to synthesize and make value based decisions that are congruent with the mission of the university. We have policy statements; if I want to know how to run the college, I have many, many policy statements and presidential memoranda, including access to people who are much better at running the day to day. I don't know what would be in such a guide; I would encourage deans to study the policy statements and the rest is having a strong support system.

The one dissenting voice shared these sentiments:

Respondent 3: I walked in on my first day to a three-ringed binder that was completely filled with tabbed information. I still use it to this today. That was completely different from my experience at my previous university where I walked in and knew nothing about anything. I was just armed with a half page job description that listed what I was supposed to do as dean. Since then, I've been trying to keep a folder that contains the administrative aspects of my job, as well as my research and other scholarly outcomes that I'm involved in. I try to label and categorize in such a way that others can understand. In almost every instance, there is an abundance of time when a leader decides to leave that they couldn't take a day out of their schedule and start documenting some of the key things

going on in their college and provide a strong resource for the incoming dean or leader. That said, I do recognize that my experience is a very rare occurrence in higher ed.

Theme 3. A cultural misalignment exists between the higher education environment and private industry.

A generally accepted dichotomy exists between the characteristics associated with higher education institutions and those associated with private industry. Whereas higher education is often rooted in traditionalism and high degrees of autonomy, private industry is often linked to innovation, efficiency and productivity. Few entities exist that are more polarizing in their mission, vision, and goals. Nevertheless, the researcher's intent was to set aside those preconceived notions and proceed with an objective and unbiased eye. The researcher found that many of the deans not only strongly acknowledged, but supported the dichotomy, especially as it related to knowledge management:

> Respondent 6: Higher education is not a business and we cannot and should not be run like a business. There are a lot of things that higher education can do to be better; it's not an either/or thing. A lot of improvements can be made regarding succession planning, understanding the breadth of knowledge needed to do the various jobs instead of coming in and taking several years to learn the job.

> Respondent 5: This is an interesting point and if will be included in your dissertation, it's definitely one that I would read. I am an academic; I've never worked in the private sector and probably never will. I'm on Team Academia. We don't do everything right, we actually do a lot of things wrong. But I am not a person that feels that all of the answers for what ails academia can be found in the private sector. We do something that is unique in our culture, in our society, and everyone thinks that they are an expert on it. I'm a little tired of hearing things like "You know who we really need in charge of universities is someone from the private sector." If you say to me that universities need to be run like a business, my brain doesn't just turn off, it turns into defensive mode. I don't think of my students as customers, I really don't like that marketing lingo because we are doing something very different. We are a research university, producing graduates who are going to thrive in their various choice of career. However, there are some universities who choose to run like a business. If you want to have a chapter in your dissertation on universities that are run that way, you should go out and visit the University of Nevada-Las Vegas. It's run like a corporation and has been for a long time. It's brand new, so people got to answer the question, "What do we want to do with this place?" and they turned it from a commuter school to a research university in 20 years. Conversely, a place like this university has run on its traditions forever. If my job description said to produce

the best entry-level workers for Shell Oil, I would do things completely different. But I don't work for Shell Oil. As a matter of fact, I think I'm doing a better job producing future leaders of Shell Oil than if Shell Oil created a community college just for that. But we hear the same thing from politicians all the time. Rubio recently stated that we need less philosophers and more welders because he erroneously believed that welders make more money than philosophers, which is complete b.s. I will be the first to admit it's hard if you're a professional philosopher to get a job. But what a sad, parochial, narrow view of the world! Of course, we need philosophers and by the way, we need welders too. But make no mistake; one gets trained at a research university and the other at a technical school. Barack Obama made a similar statement about art historians. The way that universities do things is routinely denigrated in the political culture: we're navel-gazing, we're inefficient, etc. and I disagree. This is in part due to the lack of understanding of people who aren't academics; being in the academy does train you to think differently and maybe we could do a better job at explaining what we're up to here. But that doesn't mean that everything that gets said from the private sector and the government is true. Our lobbyist is admirably trying to figure out ways to make the argument that what the faculty and students are doing here is useful for this state. All of that said, there are lots of things that are really great about the private sector that we could borrow and adapt.

Respondent 4: Compared to private industry, we're not looking at dollars and sense; higher ed [sic] is much more complex.

Respondents 2 and 8 had slightly different takes, focusing on the topic of succession planning and its place in a university setting:

Respondent 2: In almost every other job I've had outside of higher education, I've had access to the person who served before me. That is likely due to the fact that private industry typically promotes from within; this is not the norm in higher ed [sic]. A dean can come in up to a year after his/her predecessor.

That approximate year gap is a huge impediment to any new dean coming in. However, if you're familiar with the higher education arena, you don't have the expectations of it being any different.

Respondent 8: Using the hiring process as an example, our culture here is such that we start with a clean slate. We don't really think in terms of succession planning here and the concept of succession planning does not align well with our HR policies. Every time we do a search, it's a fresh reboot. There's no expectation that we are going to have people move forward. Because that is embedded in our culture, the whole concept of knowledge management seems slightly incongruent with regard to retaining the knowledge from generation to generation of the person who held that position. It's the academic culture. If you talk to our friends in private industry, they hire you at 22 years old and you retire from that company. On the rare occasion, they bring someone in from the outside, but primarily they promote from within. This university is quite different; you come in new, and if you don't, you have to compete with all of the people that were new to see if you could get the position. There are different implications of knowledge management at different levels. For example, at the dean's level, they're never going to know all that they

need to know to operate their colleges. They have people that report to them that do have the knowledge. But they have to access that knowledge to make decisions, so what you are really changing out at the dean level is more of the decision maker as compared to the person that keeps all of the knowledge. So when you watch one of your deans make a decision that's doing it well, they'll call all of the people in the room that are experts in that area, debate it for a while and then make the decision. If you get down one more level like an assistant dean, that knowledge is really core and fundamental. That's the person that I worry about in regards to moving them in and out. At the dean level, that knowledge resides in certain individuals so that if pull myself out as a dean and someone else comes in, they'd have to get tuned on the edges, but it's the decision making that's going to change. Also, the decisions are contextual: how does this impact the community, where are the president's primary priorities? When you're really good at making decisions, you make them in a complex, fuzzy network and you understand all of the implications. Each of the individuals that I mentioned has their own perspective. I deal with Facilities, and you deal with HR, or whatever your area of expertise. The dean you hire, though, is the one that has to look at the tradeoffs between all of those when they make the decision, as well as being able to put the appropriate weights on the tradeoffs. Look at all of the implications and state "I know this is not as good for X", but it's better for Y and I'm willing to accept that to move forward. So it's the soft knowledge of understanding the complexities of the interactions is one of the things that you really lose. We often use the phrase "Oh, they get it". What this really means is that they're situated in their decision-making and that's the part that you lose, not just the raw knowledge, but the situatedness of that knowledge when you're making decisions. I think there's a lot that we can learn from private industry, absolutely. We're certainly not a business, but we can be businesslike. Our goal is to make sure every dollar that is spent at this university maximizes the experience for our students and faculty. We are stewards of this money and we should make sure that every penny is put to the best use. However, we can figure how to do that, we have to do it. If we find ways to be more effective and efficient and better with our processes, let's do it! We can learn from anyone: private industry, government, whatever.

Respondent 2 had a slightly different outlook given an earlier stint in private industry,

linking the dichotomy to lesser decision-making capabilities:

Respondent 2: I do think that if my background were different, the awareness of the lack of accessible information would have never occurred to me if I'd grown up, so to speak, in higher education. I would have thought, "That's just how it is." For example, a VP would be able to readily access last week's revenues. This illustrates how important private companies think it is to provide instant information. The downside is that perspective is extremely revenue driven and for someone not on the revenue side would get the impression that only revenue mattered. So I'm very glad that I don't have to be so aware of what our situation is from week to week, but on the other hand, it would be useful if I had better access to information that would tell me, e.g. we're cutting it close this month because our tuition numbers aren't what we expected. Although it's great not to have someone looking over your shoulder telling you that you can't travel to a particular conference or that you can't order that piece of furniture, sometimes I wonder if I had a

greater level of knowledge and access to information, would I have made a different decision? When we were told, rather informally, by HR that new staff hires would be put off for 30 days, it gave you an indication that there was a concern about mid-year cuts. That indication led me to be a bit more careful about what I approved, but it was picked up by osmosis and not otherwise. This is probably the case across the academy and as I stated, is a bit of a luxury.

Conversely, several of the participants recognized higher education's disadvantageous

position:

Respondent 3: The issues that we have in higher education that make us susceptible in this area, e.g. the short tenure of our key leadership, are not handled very well. Short-term leadership results in short term planning. Often times, you'll find very short window strategic planning and you wind up with Band-Aid solutions rather than taking a long term, comprehensive approach. Lack of resources in higher education plays a part, particularly in this state with such a drastic shift in state funding. There is also an exceptionally high demand for external reporting in terms of specialized accreditation, accreditation processes, and government processes for financial aid. There is a very strong need for real time information and data to inform our progress on various strategic plans.

Respondent 2: Every accrediting school has some bare bones mechanism to capture relevant information, e.g. how many people of color were offered jobs, how many accepted, etc. For the six-year accreditation time period, it was incredibly difficult to find detailed, accurate information. As it compares to private industry, higher education, specifically this university, has much less systematic access to information.

Respondent 6: I've served in the military, so I'm used to standard operating procedures and there are very few here, especially in the areas of HR, academic procedures, etc. It is really a fallow situation. I also think that this university is bad in comparison to other universities. We continue to do things the way that we've always done them. An example that compares higher education to industry is we are attempting to launch a new degree and that process is likely to take two years. It would have taken a fraction of that time in private industry. We have go through tremendous bureaucratic hurdles: from the provost's office, to the board of supervisors, to the board of regents, to other universities for comments, and then a formal request is made. It's very doctrinaire.

Respondent 7: In higher education, we talk about mentoring and have for a long time, but we have a very uneven practice of mentoring compared to private industry. We like to talk about it as a way to transfer knowledge about the important things: how to set yourself up for success, how to pay attention to the right things, how to deal with the typical and not so typical. But it happens very differently depending on the college and I don't think that this university is different from any other in that regard. People also confuse mentorship with being a buddy and it's a very different thing. The lack of structure doesn't help. Additionally, this topic brings to mind the need for greater levels of leadership development. We do a very poor job of that compared to private industry.

Starting my career as a researcher and teacher, I had no understanding of what it meant to be a leader and an administrator and quite frankly, I didn't think that I had any interest in it either. There was also no point that someone told me, "Let me tell you about this because I think that you'd be great at it" and do this and this and this to prepare yourself for it. I became department chair and realized there were things about the position that I really liked. The process of chair selection in my college is very eye opening; I find myself wondering, "Who is it going to be?" "I wonder if anyone is interested" and "If they're interested, would they be good at it?" We have all of these questions and no process by which to find out the answers.

Additionally, many of the deans were very reticent to adopt components of the

private industry's culture, even those that had proven successful in that arena.

Finally, one of the deans acknowledged the dichotomy between private industry and the

higher education environment, but sympathized with those private companies:

Respondent 2: Even though we *think* we're under immense pressure from legislators and others to provide information, there is nothing like being a public company under pressure. For example, there is the regular presence from the IRS auditors, and the SEC, of course has very tight requirements for public companies, etc. Universities just aren't set up the same way; the oversight is entirely different. The bottom line is if you're not forced to capture that knowledge, by some external or internal entity, you're not going to do it. Maybe there is more trust in higher education, or at least this university, than in private industry.

Respondent 5: Unlike the private sector, no one was looking over my shoulder when I came onboard, expecting that I would be a mature and experienced dean within the first 90 days. I believe that our provost knew that he could trust me to figure things out. He always made sure that I knew that the door was open if I needed him and that was enough for me.

Theme 4. The human resource is a highly valued commodity in higher education.

There are very few studies that highlight the human side of knowledge management,

instead focusing more on the technical resources of its implementation. However, research

supports (including this study) that the human resource can be the most critical component of a

successful integration of knowledge management principles. When asked to describe knowledge

management practices that were used in their respective colleges or units, every dean provided

responses that illustrated a high degree of reliance on the employees within their departments.

Respondent 1: Accessing knowledge is more based on knowing the right person who possesses that information. I don't know where any form of information is kept or housed and to be honest, I haven't looked for it because I have the advantage of having people who do know.

Respondent 2: We rely heavily on people who have, over the years, captured various types of knowledge about processes in some way, shape, or form. When I have questions about a sabbatical, I know who to go to; when I want to order furniture, I know who to go to. If those individuals and many others weren't around, I wouldn't know where to look. Even if the information has been captured in some form, I wouldn't know where to find it.

Respondent 3: Our employees are exceptionally important. When I think of my assistant and the contributions that she makes, I wouldn't be half as effective as a dean without her. It's important to have individuals like that to lean on. I also am fortunate that my predecessor is still around. For a while, we'd have lunch a couple of times a semester in an effort to get information particularly on those tacit processes and how they can be utilized to get a certain outcome, knowing there are multiple pathways to that outcome. I am a firm believer that the capture of tacit knowledge occurs through personal interaction from individuals that have been here long enough to be able to understand the role that tacit knowledge plays. I tend to be very conscious of being able to understand processes early on and being able to figure essentially what the rules of the game are and how the game is played. I do lean on individuals and will often in a very collaborative way seek out input on the front end to make sure the process is smoother in the long run. Any process related to human resources is something that I will stop on a dime for.

Respondent 4: You can limit yourself greatly by not accessing the knowledge of the people around you. My administrative assistant has been around a long time. To not avail one's self of that knowledge would be pretty foolish. We rely quite heavily on the knowledge that's only currently in the heads of certain employees. You could sit down and create a template, but it's easier to tap your people. At the dean's level, you have to release control and let your employees be responsible for doing their job. If they fail, we'll deal with it, but that's how it has to work. So success is rooted in having the right people in the right job and then empowering them to do the job.

Respondent 5: Every time that I start a new job, it's been pretty much on me, i.e. on the job training. So I actually think that's fine assuming that I know who I can turn to as a human resource to answer my questions. That's not a problem for me; I'm really very comfortable finding mentors and hitting people up for information. I've been fortunate that there's always been someone to mine for information. My bacon has been saved on numerous occasions by people on my staff who knew what transitions were coming and who took great care to ensure that the new guy was briefed and helped along. I've also succeeded two people in the last four years, both of whom were planning to step down, so there was some overlap that provided me the opportunity, not to shadow like what might occur in the private sector, but I certainly had access to them as a resource.

Respondent 6: At least three quarters of a dean's success is rooted in the implicit, political, social, relationship side; less than 25% is the explicit part. For example, a critical part of a dean's responsibility has to do with fundraising, which is all relationship and very tacit focused.

Respondent 8: Does this university do a good job at capturing knowledge management, be it in a repository or some other tool? No, it doesn't; the knowledge resides in the people that you work with.

Respondents 3 and 4 took explicit steps early on to capitalize on this valuable resource by

meeting with faculty and staff:

Respondent 3: One of the first things that I did as dean when I arrived here, and I did the same thing at my previous university, was to meet with every single faculty and staff member during my first year to learn more about their personal and professional goals. I wanted to make sure that I was fully aware of our capacity and the intrinsic motivation in the areas that our people were most talented. Although those meetings were designed to make sure that I could learn more about the people that I'm charged with representing, it was also a form of knowledge management, being able to learn and capture information about their individual views on the historical trends that they've observed at the university over time.

Respondent 4: When I stepped into this role, I spent the first six months meeting with department chairs, meeting with other key people in the college. Afterward, I scheduled a retreat where we had general discussions and knowledge sharing that served as the foundation that ultimately became our strategic plan.

Respondent 6: The first couple of months, I invited every dean to lunch, you know, just to acclimate, including some vice presidents, vice provosts, etc. Forging relationships so that you could get the job done. This is an example of having more of a focus on the social relationship than ordained rules. Nothing takes more of your brain than relationships. Again, it's true at other universities as well, but here it is extreme. When you bring in professionals from other universities, they just can't believe it.

Respondent 7: I know that I'm new to the institution and there are many people that I need to rely on. I engaged in a bit of self-talk before I took the job stating that you're going to have to be resourceful and get to know people. I set up appointments with each of the deans to get to know them. I can't say that a great deal of nuts and bolts knowledge transfer occurred in those meetings, but it was certainly a good way to get to know the institution. Even though there is a great deal of reliance on people, we do have lots of policies that can be a bit daunting, e.g. the policy that governs our promotion and tenure process. My most comfortable way of working is having written policy, but it's also have people to talk to. It's part of my personality. I recognize in myself a collaborative, consultative leadership style and part of that is wanting to engage and discuss.

Respondent 8: As odd as it sounds, deans are more interchangeable than other employees! Because the individuals that come to mind that have deep knowledge are not deans. Those individuals are more challenging to replace than bringing someone in that's going to access that knowledge in order to make decisions. That's probably why deans come and go and associate and assistant deans don't. In terms of knowledge, skill, and abilities, that's where it really rests. When you think about the president, he's making very complicated decisions every day. But I guarantee that he doesn't have all of the deep knowledge, nor should he. Someone has got to give him the information in a straightforward manner so that he can make those complicated tradeoffs. If one of those people, the holders of the institutional knowledge, left, we'd have a big issue on our hands.

However, when asked if those individuals that are relied upon so heavily were no longer available, what would happen? The general consensus was "We would just figure it out."

At least one of the deans recognized the significance of the 'human' knowledge repository, but at the same time, acknowledged it as an organizational weakness:

Respondent 6: Everything is very personality driven, it's very ad hoc and it can be very frustrating, especially for new employees. New employees are looking for guidelines and they're just not there. The idea of people/personality over procedures/policy is very indigenous to this state and I think some of that spills over and impacts our university. However, that's what makes this university so unique and complex. We don't fit in any model and neither does our state. It's fascinating.

Theme 5. Knowledge management practices are siloed and limited in scope.

The processes that capture how institutional knowledge is managed can be categorized as follows: knowledge creation, knowledge storage/retrieval, and knowledge transfer (Alavi & Leidner, 2001). By nature and definition, institutions of higher learning are entities that are at the very forefront of creating knowledge. However, the remaining components of storage/retrieval and transfer are sorely and severely lacking. While some limited efforts are being made by some, the researcher found these efforts to be negatively impacted and compounded by the aforementioned reliance on the human resource, or employees.

Respondent 1: Other than water cooler conversations and email, we don't do a very good job with either aspect of how knowledge is managed. Therefore, one of the first things that I did was to completely restructure the college, getting the right people in the right places in alignment with our mission and values. As a for instance, student recruitment is a big part of our college, but we didn't have anyone that had recruitment as their primary responsibility. So I added a position that could focus on this critical piece. This person

goes out to connect with public schools and based on those connections, can subsequently serve in the role of "sergeant" to direct faculty to visit with a particular school. Our faculty was doing this on their own, but it was very willy-nilly. In the performance of the role, this individual collects data and stores it a database that we've created that allows us to be much more targeted and purposeful about who, what, where and where as it relates to our pipeline of students.

We have a dean's cabinet that serves as my leadership team staffed with our associate and assistant deans, etc. We meet every other week for a roundtable discussion around what's going on in the college, are there things that we need to deal with, etc. In an effort to share, if not capture, tacit knowledge, there have been times when I will highlight a theme, e.g. leadership principles, priority matrices, etc. We also have created a student leadership council that meets once a month and that's a time to present any of their concerns or issues. Additionally, we use it as a vehicle to instill leadership qualities in our students.

Respondent 4: What I'm not sure that we do well is documenting and capturing processes or the conversations surrounding them.

Respondent 2: Once, maybe twice a year, I believe, we receive a document that functions as a university wide dashboard. Our provost provides it and it contains a ton of key measures (head count for the last 5 years, degrees awarded, student credit hours, etc.).

Respondent 3: I meet regularly with the committee to develop college level promotion and tenure guidelines that will help our junior faculty have a greater understanding of two things: what counts and how much. As a result, we now have a document that can be passed on to the next dean and leave them in a better position. We also have some programs and mechanisms here that support that, e.g. the HR system used for hiring, the student intranet, asset management reporting tools, enterprise systems, sponsored program systems, etc., so there is an abundance of programs that are focused on various aspects of higher education available to us.

Respondent 6: We conduct dean's advisory council meetings, a core executive committee exists, and several department meetings are held; these are examples of the transfer of explicit knowledge. Regarding tacit knowledge, I offer opportunities in an informal way for students and employees to have a chat with the dean. I also walk the building every day; so in one way or other, I've seen the entire faculty.

Respondent 7: I have weekly meetings with the associate deans and that is the purpose of those meetings: to share knowledge. I ask for and distribute agenda items ahead of time and the meetings have shifted from more of a one-way reporting situation (prior to my arrival) to more of a dialogue. I'm fully aware that I can't know everything that goes on in each department, but engaging with the associate deans helps me to keep my finger on the pulse.

What is vehemently clear is the impact that is felt by the absence of a solid knowledge

management structure:

Respondent 1: We had an incident earlier this year in which I made a request for student enrollment numbers. I wanted to see the trends per department for the last several years. We, unfortunately, do not capture that. I wanted to see an overall college enrollment for the last ten years broken down by degree type. We, unfortunately, do not capture that either. So what our leadership team and I have committed to doing is to identify a finite set of student data that we want to collect at the end of every semester. Once we have that data, then it's just a couple of hours at the end of every semester to fill in spreadsheets and then you have running totals moving forward.

Respondent 3: The former provost established a series of metrics and ratios that each college was to be accountable for; metrics like number of students, number of graduates at each level, fundraising numbers, retention rates, and expenditure of research dollars. There were also a number of ratios that allowed for fair unit-to-unit comparison. Every November, the deans receive an annual list of data output, but it's November and it references all the way back to the ending of the previous academic year. So it takes from August to November to gain access to the data.

Respondent 4: I do recognize that we need to do more and we're getting there. We have a calendar that has every event listed, but what's not captured are the details of what needs to happen at this time and by whom, etc. In the absence of that, there is slippage on occasion. But another important component is that even if that knowledge was captured, someone needs to be responsible for it.

Theme 6. Obstacles exist that thwart the growth of knowledge management in higher education.

The successful implementation of a knowledge management system demands urgency in overcoming the barriers that are typically rooted in social and organizational constructs (Transportation Research Board, 2007):

- Apathy regarding the sharing of knowledge;

- Reward systems that mitigate against knowledge sharing;

- Differing cultures and subcultures;

- The absence of a common organizational "language";

- Inadequate supportive technology;

- Lack of balance among disciplines, i.e. an over-reliance on information technology (IT) as a driver vs. an enabler, over-reliance on documentation, or over-reliance on people-to-people approaches;

- Development of small work unit efforts, etc. without a coherent enterprise-wide strategy or a "systems thinking" holistic approach;

- Insufficient IT skills to develop sophisticated databases that handle textual information as something other than just "data," necessitating applications of taxonomies, superior searching capabilities, etc.;

- "Hero" syndrome: The desire by employees to be indispensable;

- Knowledge capture and sharing is seen to be additional work.

During the interviews, there was certainly evidence of many of these more common barriers related to culture or resource limitations:

Respondent 1: As I think of the university as a whole, it's differing cultures from college to college. What we do in my college is so unique, I'm not sure if people would want to know what we do or if what we do could be readily and easily translated to a college that is quite different from mine.

Respondent 4: I try to stress having a plan in place so that if I walk out today or tomorrow, the next person can pick up quite easily. At this level, however, the opposite is almost always the case. Occasionally, an associate dean will move up and institutional knowledge can be retained, but that is the exception and not the rule.

Respondent 6: Employees become so used to the absence of guidelines, in the odd case where guidelines do exist, they're not used to using them.

Respondent 3: I've seen the hero syndrome used by a lot of employees to preserve their jobs specifically by hoarding knowledge. I think that some of the gut reactions for a lot of senior level administrators are to look toward technology for solutions. In many cases, the technology is already there, but just not being utilized. There is also a lack of awareness of the importance of knowledge management and knowledge transfer in higher education and it hasn't yet elevated to a high enough priority. The amount of savings that could be realized would be incredible.

Respondent 1: I often hear our employees say, "I have so much to do, I can't possibly take the time to do one more thing." Also, it's a luxury that we can't afford in higher education because of the cost involved.

Respondent 4: Time is definitely as issue and is certainly apropos for staff.

Several statements were made that acknowledged that the absence of KM frameworks

has a negative impact on the college/unit:

Respondent 2: The sense of urgency around data is just not there.

Respondent 3: Our systems are all focused in the past and there seems to be a lag in the information being delivered to the decision maker. There isn't any system that ties into the environment to create an algorithm to project the future. I'm constantly given backward facing data to make forward facing decisions. It would be nice to have some type of predictive analytics. I'm making hiring decisions now for what the college is going to be like next year. I can certainly look at national trends on employment and data from the U.S. Department of Labor, but it is, at best, an educated guess. What we have is better than no data at all; it's significantly better than what I experienced at my last institution, but there's still some room for improvement.

Respondent 4: There is no real time analysis of that data and we need it to determine the pulse of the college. Some aspects are getting better; when I arrived, deans were not being copied on institutional advancement reports that reported how each college did during the previous month with its fundraising goals. The reporting existed, but it wasn't filtered to the deans. We also recently started getting copied on monthly external research funding reports.

Respondent 1: We received additional scholarship money; I wanted to take that money and look at our departmental enrollment by percentages to see where we'd risen and where we'd fallen to inform me where money needed to be placed to even things out. I don't have the data to do that. So I'm left to only anecdotally state which department needs money. I want and need to be able to support my decisions with data instead of guesses. I didn't find out that we had a shared dean's drive that contained budget documents until I was four months into this role! There were no files, basically an empty office. Also, there is a lack of boots on the ground due to, in part, turnover. So you're left with individuals who don't possess the knowledge of their predecessor and in addition, may not be receiving adequate training.

A few additional hurdles surfaced during the interviews; one was that of mistrust borne

out of past experiences with systems that were intended to manage or capture knowledge:

Respondent 1: If the system is so broken, i.e. there are no processes in place to capture and share the knowledge, what good is it? In my case, our system was so broken, I chose not to try and retain that knowledge associated with it. I didn't trust its accuracy.

The second additional hurdle was that many faculty members regard the knowledge they

have as a trademark that is not to be shared freely. This is normal according to the nature of the

academia and the prominence it places on conducting primary research as faculty members view

knowledge as a source of differentiation (Wiig, 1993):

> Respondent 1: It is more difficult to create a culture of knowledge management with faculty vs. staff because faculty is more focused on their discipline, their craft. I'm not even sure that they are inclined to share their knowledge because they want to be considered the expert in their specific field and they tend to be very siloed, thinking that what they know can't/shouldn't be transferred to others. The analogy that I frequently use is that you have all of these faculty members and they're all trying to build towers and parapets and they want to build them as tall and as high and as colorful as they can to attract people from all across the land to their tower. My job is to take all of those towers and connect them with bridges and make a kingdom on top of a hill!

Taking this premise a step further, academics are behind the proverbial eight-ball because

for most, their career goals did not include administrative responsibilities in the form of

leadership roles such as chair, assistant dean, associate dean, and ultimately dean. Given that

knowledge management responsibilities tend to land on the shoulders of those in charge, most

deans are ill prepared, even somewhat blindsided by the need to manage knowledge resources

and processes:

> Respondent 4: None of the individuals in charge on the academic side: chairs, deans, provost, vice provost, go to school to do those jobs. It's a very odd transition for you. You go to school because you're really fascinated by some subject that you're amazed that people will actually pay you money to study! I always say that academics are a strange lot because you have to be someone that enjoys being alone with your thoughts, figuring out a problem, and writing about it. You then go into a classroom and provide that knowledge and if you're good at it, it's very collaborative. But none of that prepares you for leadership in this role. You can be a leader in your field by way of your research, but it's not the same as leading a college. While we may be very detail oriented in our own work, it doesn't always translate in a different arena or environment. I never envisioned early in my career that I would have found the thought of being a college dean laughable. It is very rare that someone steps into academia wants to go on to be a provost. That animal may exist somewhere, but it's like a unicorn. You tend to be assigned to a committee and you show up and function well. Then you're named chair of the committee and you actually get the report in on time and as a result, you're in line for department chair. All of this is a bit exaggerated, but not by a lot. That whole scenario that I described doesn't lend itself to someone coming in with the thought that processes need to be put in place, established and documented. And while faculty understands faculty governance, there are only a handful of people involved in governance. The rest are in front of their computers immersed in their work.

Respondent 5: All of the deans came up through the academic ranks. They don't teach you in graduate school how to be an associate dean, how to be a director, how to be a dean; there's no class on that. The difference between that and the private sector is there's not a management training program at all. In grad school, you learn how to construct an original research topic, you learn how to do historical research, how to write, maybe how to be a professor, but certainly not a dean. So we're all learning on the job; that's part of the deal. When I decided this is something that I wanted to do, I knew that I'd have to teach myself. So if there's a binder that would imply two things: 1) that there's only one way to do the job, (or at least a preferred way to do it) and 2) you're not good or able to adapt to situations and ask your own questions.

Respondent 6: I've never met a dean that expected to be a dean. No one enters academia and states, "In ten years, I want to be a dean." So you're a bit unprepared for some parts of the job. The fact that we work very siloed seems to be one of the biggest obstacles, specifically between faculty and administration. Faculty are immersed in their disciplines and it is sometimes difficult to engage them.

Respondent 3: If you think of a faculty member, you have five years to produce enough research to keep your job. To the extent that people pull you to do document your knowledge, that is not good mentorship for that individual. Then when you get to be associate professor, you're building research to get yourself to professor. Once you're tenured, you're presented with all of the things that we don't want on our assistant professor's plates (committee assignments, service). There's always this balance of the work that needs to be done and the capturing/sharing of knowledge. If one does decide to pursue certain aspects of knowledge management with faculty, the mentality of that group and the culture that is ingrained in the academy has to be considered.

Best practices are considered the "better" ways that an organization can approach the completion of a certain process or procedure. What's considered the latest or cutting edge practice in the corporate arena or private sector can easily eke its way into the higher education environment if one isn't paying attention. Is this desired? Is the best practice that has proven successful in the private arena the right fit for higher education? Does culture play a part? The researcher sought to determine firsthand how each dean perceived the answers to these and other related questions when presented with a list compiled by Best Practices LLC's and included in their report, "Knowledge Management of Internal Best Practices" (See Appendix A):

Respondent 2: It's interesting how many of the best practices I ruled out due to our culture. A lot of those examples dealt with sales, were very revenue oriented and/or dealt with competitors. Regarding the latter, we know a lot less about our competitors than industry does. So the only examples that resonated with me that could work here was the

aforementioned AT&T best practice and the Pella example. For example, like AT&T's AAA system, University Relations has done a good job at capturing knowledge of who the experts are in various departments, e.g. when the media calls in response to an oil spill, University Relations uses that method to quickly identify experts in the geology department. Overall, they seem to very non-threatening as it relates to the autonomy that deans currently have in their schools. This speaks to a comment that a colleague once made that deans are the "barons of the university". He probably made the comment in jest, but I think many deans do feel that way.

Respondent 4: There is a small element here of what Wal-Mart does. The deans have a brown bag lunch; it's gone in and out as it relates to its consistency, but this gathering is important in terms of information being shared. However, we share, but the information is not captured for further generations. Again, this is the norm for higher ed. We are working to use an evaluation system that links back to our goals and priorities. In terms of assessing our competitors, we're competitive as it relates to the production of our students and faculty, the recruitment of our students, private dollars raised, but we don't necessarily approach that strategically. For example, currently we're looking at equity issues in the college. From institutional research, we were able to gain access to the market data on what salaries are across disciplines. The challenge is even when you gain access, it may not be apples to apples, for example: Does it reflect 9 or 10 month pay? 10 months plus a summer stipend? Additional compensation? Size of the department? Direct admit or not? Fundraising is another area. When you compare what our peers invest vs. the investment that this university makes, understandably the return is going to be less. Yet another example that isn't exactly apples to apples when looking at the competition is Alabama. They've made an enormous leap in terms of their student population. To accomplish that, they decided to basically provide all freshman with a full ride their first year, but that's it. In comparison, is this a good or bad strategy? Is this a best practice?

Respondent 3: One of the key elements that determine which will work in various higher education settings is to look at how the respective budget systems are set up. I came from a university that was on a 100% traditional budget model. Anytime a faculty position became vacant, the position automatically went to the provost level. The dean in the college where the respective position had been recently vacated could certainly make a pitch to try and get the position back, but the provost had the authority to send it anywhere in the university. It was a highly centralized environment in terms of development, enrollment, etc. Here, it's more of a hybrid environment where the majority of colleges have a traditional budget program, but some have more of a responsibility centered management (RCM) program where they receive the revenue that they generate, but pay a tax back to the university. Variable revenue streams like online programs, grants, contracts, and development activities provide the colleges with a percentage of the revenue. At institutions that have a 100% RCM model, the deans are rarely looking to help each other out. They may say that they do, but if they work on collaborative programs and a student ends up leaving one college for another, the dean of the exiting student has lost revenue. Some of the initial elements would probably not work in any environment like that where deans see each other as competitors of the same

resource pool. I see the best practice of establishing multi functional teams as one way of sharing information that would be very important.

The evaluation system practiced by Verizon could be very interesting and something that I've tried to do at the college level. I've even changed how we create agendas at the college, putting our college's mission statement at the top of the agenda. I don't know how tough we are regarding ensuring that the topic isn't a tangential one because I try to have a very open, collaborative environment. My goal is to try and get all of the ideas on the table for discussion. We also make sure that we have tangible outcomes and action plans that we follow up on for the next meeting. AT&T's system sounds very interesting. This system could have helped to capture the information gained in my initial meetings with the faculty. W.R. Grace's example is probably only being done with our university's donor database. Respondent 5: The AT&T Rolodex system idea is really cool. If I were in a Rolodex similar to AT&T, I would be listed as a spousal accommodation guru and negotiator. That's a great practice because how else would you know that about me? W.R. Grace's practice makes me think of my leadership style which is to encourage my colleagues to be thinking about 5 and 10 year plans and when I got here, that had not been happening. I like the intranet idea, but I can't imagine who would build that, but what a cool idea. I'm skeptical of databases because they get outmoded very quickly and subsequently it's hard to use them to search. Having a database (or the cabinet full of detailed files left by my predecessor) is like a security blanket, but more often than not, rather than look it up, I opt to reinvent the wheel. But if something that robust existed, that might be kind of cool.

Respondent 6: All of those best practices, in my opinion, are the way to do things and would all have application here. We're using the retreat approach in a few areas within the university. All ten of these best practices could be amalgamated into a pretty strong way of managing our knowledge: the database usage, the capture of what resources are at our disposal.

Respondent 7: I think that the "Work-Out" program that General Electric uses could work here. I think that we, and higher education in general, already employ the best practice of evaluating progress using performance measures. We also utilized brainstorming techniques, but we greatly lack in the follow through. I don't really like the digital rolodex idea because it doesn't seem like it would get used too often. The Booz Allen KOL system would be fantastic.

CHAPTER 5: SUMMARY

Research has shown that private industry has a better grasp on knowledge management than in the higher education arena. What are the reasons that create this distinction? Is value seen in knowledge management practices by higher education leaders given the success that those practices have had in the private sector, i.e. what is their perception of those practices? Can those leaders, i.e. deans and their stakeholders, expect the same or similar outcomes? With the objective to answer these and related questions, this study was conducted in the form of an eight semi-structured interviews with those with the following participant profile: past or present deans of a public RU/VH institution (Research University with Very High research activity as defined by the Carnegie Classification of Institutions of Higher Education) in the southern portion of the United States. Participants for this study were selected based on their leadership positions in the administration at the selected institution, each were interviewed, in part, to determine their awareness and perception of knowledge management.

The objective was to study the perceptions and perspectives of those deans regarding the usefulness and value of implementing knowledge management best practices typically employed by businesses in the private sector. The following research questions were used as a foundational framework during the study:

1.   What level of awareness exists of the impact of knowledge management in higher education administration?

2.   What methods exist for capturing and sharing knowledge?

3.   Can knowledge management strategies practiced in private industry translate successfully in the higher education arena?

4.   What elements exist in the administration of higher education that either support or prevent the retention of institutional knowledge?

Summary of Methodology

Because it was of great interest to the researcher to focus on the participant's subjective experiences and how they interpret or perceive those experiences, a phenomenological approach, specifically Giorgian, was selected as the most appropriate option. The four succinct steps of the Giorgian approach are:

1. The researcher assumes the phenomenological attitude;

2. The researcher reads the entire transcript to get a sense of the whole experience;

3. The researcher demarcates "meaning units" within the narrative or transcript so that the data can be dealt with in manageable portions;

4. The researcher establishes central themes.

Findings

1. There is a general lack of awareness of the specific term, knowledge management.

One would think that because colleges and universities can be viewed as manufacturers of knowledge, that there would be a high level of awareness and recognition of the term knowledge management. The study revealed that most of the respondents had not explicitly heard of the term, but were generally aware of the concept. Even those that were generally aware seemed to reference KM in very narrow ways, e.g. the capture and storing of explicit knowledge in a database. Although the field of knowledge management has been around for decades, this finding is understandable given that knowledge management is fairly new to higher

education. However, because higher education institutions or HEIs are responsible for maintaining the quality of the education being provided and the monitoring of not only student performance, but also the performance of the institution, it is imperative that HEI leadership becomes intimately aware of both the nomenclature and related tenets of KM in order to be responsible stewards.

2.   Deans understand the conceptual value of knowledge management and are open to employing its practices in their college, but are resistant to doing so as it relates to their job responsibilities.

Whether the realization occurred during the interview process or whether it existed prior to, all deans that were interviewed wholeheartedly agreed that the capture, dissemination and subsequent transfer of knowledge management, both explicit and tacit, was of value in their respective colleges. However, there was a clear line of demarcation between the desire for a greater KM presence within their college's departments and the lack of desire for the same as it related to the dean's specific responsibilities. When asked if they would have wanted access to information from their predecessors that would have assisted in the transition to the position of dean, each of the deans, with the exception of one, viewed having access to information (e.g. a repository of information in the form of a binder or flash drive) detrimental and unacceptable, opting instead for "a clean slate". The majority of the deans further clarified this position by stating that, in their opinion, they were hired to bring their own unique vision to the role, not to continue the one set in place by their predecessor's.

3.   A cultural misalignment exists between the higher education environment and private industry.

A generally accepted dichotomy exists between the characteristics associated with

higher education institutions and those associated with private industry. Whereas higher education is often rooted in traditionalism and high degrees of autonomy, private industry is often linked to innovation, efficiency and productivity. Few entities exist that are more polarizing in their mission, vision, and goals. Nevertheless, the researcher's intent was to set aside those preconceived notions and proceed with an objective and unbiased eye.

The researcher found that many of the deans not only strongly acknowledged, but supported the dichotomy, especially as it related to knowledge management. However, amid this support, the majority of those interviewed acknowledged that the absence of knowledge management processes and systems placed the university at a grave disadvantage.

4. The human resource is a highly valued commodity in higher education.

There are very few studies that highlight the human side of knowledge management, instead focusing more on the technical resources of its implementation. However, research supports (including this study) that the human resource can be the most critical component of a successful integration of knowledge management principles. When asked to describe knowledge management practices that were used in their respective colleges or units, every dean provided responses that illustrated a high degree of reliance on the employees within their departments.

5. Knowledge management practices are siloed and limited in scope.

The processes that capture how institutional knowledge is managed can be categorized as follows: knowledge creation, knowledge storage/retrieval, and knowledge transfer (Alavi & Leidner, 2001). By nature and definition, institutions of higher learning are entities that are at the very forefront of creating knowledge. However, the remaining components of storage/retrieval and transfer are sorely and severely lacking. While some limited efforts are being made by some, the researcher found these efforts to be negatively impacted and

compounded by the aforementioned reliance on the human resource, or employees.

     6. Obstacles exist that thwart the growth of knowledge management in higher education.

     The successful implementation of a knowledge management system demands urgency in overcoming the barriers that are typically rooted in social and organizational constructs. Several statements were made by the respondents that acknowledged that the absence of KM frameworks has a negative impact on the college/unit. A few additional hurdles surfaced during the interviews; one was that of mistrust borne out of past experiences with systems that were intended to manage or capture knowledge. The second additional hurdle was that many faculty members regard the knowledge they have as a trademark that is not to be shared freely. This is normal according to the nature of the academia and the prominence it places on conducting primary research as faculty members view knowledge as a source of differentiation (Wiig, 1993). Taking this premise a step further, academics are behind the proverbial eight-ball because for most, their career goals did not include administrative responsibilities in the form of leadership roles such as chair, assistant dean, associate dean, and ultimately dean. Given that knowledge management responsibilities tend to land on the shoulders of those in charge, most deans are ill prepared, even somewhat blindsided by the need to manage knowledge resources and processes.

     Finally, despite the overall tenor that "higher ed is not big business", the majority of the respondents did see value in the application of many of the best practices that are employed by private industry. However, if they were to be implemented, a caveat would be attached: it would have to be adapted to fit the unique and distinctive culture of a college or university campus. The interviews clearly identified while there may be an appetite for some of the practices, as well as recognition of the value of KM, there was almost a pretentious or elitist air

regarding the manner, or even the boundaries, within that acceptance. This was both explicitly stated by some of the respondents and implied by others.

Limitations and Future Research

Only one limitation was encountered during the course of this study, particularly during the literature review. It was clear that there was not a wealth of information or research that focused on the premise of this study, therefore one of the major limitations is the lack of a robust body of prior research on the perceptions of deans on corporate approaches on the retention of knowledge and how it may or may not work in higher education or simply on topics involving the key components of higher education, private industry, and knowledge management.

Given that the focus of this study was held to the position of dean, as well as to a particular portion of the United States, future research could vary geographically, i.e. beyond the southern portion of the country, even expanding globally. Would a different area of the country produce different results? Would a university in India uncover surprising and unexpected outcomes? This study was limited to one particular type of university; future research could delve into private universities, two-year vs. four institutions, or even the non-profit arena. Subsequent studies could also broaden to other positions within the university hierarchy; e.g. the position of a college president would be an interesting angle as they would provide a more comprehensive view than the decanal one chosen for this study. Because the public institution was targeted for this study, the perception of deans in private institutions, along with the unique challenges faced by those institutions, would be a welcomed and different viewpoint. Along the same vein, although a qualitative approach was deemed to be the best fit for this study, it would be beneficial to determine if a quantitative approach via a detailed survey would produce results that could further add to the body of work in this arena.

Because many of the respondents spoke quite often about the career path that leads to the position of dean, it would be quite intriguing to determine how many first time deans are serving at public RU/VH institutions. Although specific characteristics or demographics were not targeted for this study, it would be enlightening to determine whether the perceptions around knowledge management differ based on characteristics such as age and gender.

Conclusion

The conclusions drawn from this study are, by definition, representative of its findings. The conclusions are:

1. There is a need for KM in higher educational institutions. Whereas knowledge is certainly not a new term to higher education, the myriad of ways that knowledge should be managed is not yet fully integrated or embraced. Creating and capturing both tacit and explicit knowledge using both human-based and technological approaches and the subsequent storage and dissemination/sharing of knowledge can serve as a competitive advantage. Many colleges and universities shy away from the word competition given its feel and association with big business. Unfortunately, with the expectations of increased numbers associated with student retention and graduate rates, as well as expectations related to the value of a college degree and different methods of learning and instruction (e.g. Massive Open Online Courses (MOOCs)), turning a blind eye and eschewing the growing competitive landscape of higher education would be ill-advised. Additionally, the advantages to be gained from the adoption of KM principles are many. If institutional knowledge continues to be lost at current rates, knowledge management could serve as a panacea, making information more easily accessible so that problems can be solved, decisions made more efficiently, and response times improved. Redundancy would become a thing of the past. Processes are invented and reinvented on a regular basis throughout

a college campus. The preferred alternative approach is to capture the process in such a way that it is repeatable, consistent, and predictable. Steering clear of duplication of effort will also result in savings in both time and money. There are also skill sets and levels of expertise that are unintentionally hidden from those that could greatly benefit from those capabilities. This is an even more salient point if the skill or expertise is scarce or not widely available. Each of these points supports the aforementioned theme of the highly valued commodity that is the human resource. Without the benefit of knowledge management practices, it is next to impossible to have the level of insight needed given the large number of employees that reside in colleges and schools.

    2. The respondents strongly believe that higher education is not a business. The respondents in this study (and one might correctly assume their colleagues take a similar position) thumbed their collective noses at the notion that higher education should function under the same framework as private industry. The deans posited that students are not our customers, HEIs are not profit driven, and the ultimate mission of the *traditional* university does not align with the mission of big business. The researcher, however, takes a different view. Higher education is indeed big business. This stance is supported by the fact that more and more public universities are exhibiting business like behaviors: privatization of bookstores, outsourcing IT, and contracting food service companies. The aforementioned competition comes into play again when one considers the exponential growth in the last decade of for-profit universities. Although in slight decline in recent years, according to the National Center for Education Statistics, undergraduate enrollment increased from Fall 2000 to Fall 2014 at a faster rate at private for-profit institutions (217 percent) than at public institutions (26 percent) and private nonprofit institutions (25 percent). This mindset that higher education is not a business does not align with

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the actions and requests of higher education leaders. As we witness the increased number of

online programs and continued requests from the state legislature for more autonomy and

authority to set tuition, make purchases, and obtain worker's compensation on the free market,

how can this be seen as anything other than big business at hand? As obvious as this situation

seems, the researcher observed the staunch embrace of the Academy by each of the deans; it was

evident that possessing the ability to freely exchange ideas and the opportunity to publish

research without outside interference are ideals that are more than worth clinging to. The

application of knowledge management practices that make sense for higher education could play

a role in keeping the spirit of the Academy intact, thereby avoiding possible negative

repercussions of not responding to the outside threats to the institution or its culture.

    3.   There should be a more deliberate and purposeful effort to prepare faculty for

administrative roles. This is especially true given the desire to protect and preserve the culture of

higher education. The findings of this study reflected that deans were ill prepared for the

significant role of dean of their respective colleges/units. This is a fairly universal challenge for

deans; they serve dual roles of researcher/scholar and

administrator, especially in the type of institution that was chosen for this study, research

universities with very high research activity. The administrative roles are varied, from

successful fundraiser to budget wrangler to adapting to the various stakeholders (students,

faculty, parent, donors, campus leadership), none of which are unrelated to the dean's briar

patch: research. As one of the respondents stated, "I've never met a dean that expected to be a

dean."

Recommendations

The challenge in minimizing knowledge loss is to first identify the sources of knowledge, followed by the creation and development of the necessary processes and systems to ensure knowledge retention and utilization. Given that this would be a significant shift considering present day KM practices in HEIs, it is suggested that, at the very least, an employee with the adequate skill set and competencies should serve as the point "knowledge coordinator" in each college and unit. This person would be charged with the creation and coordination of those basic KM components: capture, dissemination, and transfer. This employee should be afforded the capacity and proper training to perform this critical responsibility. Once identified, the employee's new or enhanced role should be formalized and appropriately communicated to staff. An added benefit of these recommended steps, which could include updated job descriptions and public announcements during staff meetings, is the value of recognition especially if the selected individual is already performing all or a portion of these duties.

At the most, the university should create a position that would have the responsibility of all knowledge management initiatives and activities across the entire campus. This "Chief Knowledge Officer" should be considered a critical member of the president's executive leadership team and not be relegated or considered merely a component of the information technology team. This position could mitigate institutional loss by putting processes in place, tracking and monitoring trends and patterns, capitalizing on existing resources, including some version of the aforementioned private industry best practices.

Closing the cultural divide that exists between private industry and higher education could occur by increasing the opportunities to create and/or strengthen the relationships between those two environments. Collaborative and reciprocal efforts that involve discovering additional

ways to connect students and employees with industry as well as making stronger linkages of how research can benefit industry.

It is imperative to the forward progress of higher education that the value of knowledge management is expressly understood, not only by deans and other HEI leadership, but to lower level managers who are charged with relative responsibilities toward the capture and dissemination of knowledge in their respective areas. Incentives could be put into place in an effort to encourage initial and continued usage or written into performance plans. These efforts should be pursued while remaining mindful of the importance of maintaining and preserving the culture that exists at the macro and micro levels of higher education and universities, respectively.

With all of the challenges facing higher education: growing concerns about the value of a college degree, ever shrinking state funding sources, greater scrutiny of accountability metrics, rising tuition costs, just to name a few, institutions need the necessary tools to tackle those challenges. One such tool is not only a culture that supports and embraces knowledge management principles, but also one that commits to an investment in its related processes and systems. Based on the results of this study, the higher education is ripe to integrate some of the private industry approaches to knowledge, as long as the revered higher education culture is protected.

Even though the body of research on this topic is growing, it is the researcher's hope and expectation that this study will increase the amount of focus and attention on one of the most important institutions that exist today: higher education.

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APPENDIX A: TOP TEN BEST KNOWLEDGE MANAGEMENT PRACTICES

1. Involve high-level executives in best practice forums to maximize transfer of good ideas throughout the company. To foster a feeling of a "boundary-less" culture where ideas and best practices are freely exchanged, General Electric has instituted a program called "Work-Out". A group of 40 to 100 people, picked by management from all ranks and several functions, gather at a conference center or hotel. The three-day session begins with a talk by the boss, who roughs out an agenda — to eliminate unnecessary meetings, forms, approvals, and other cutwork. Then the boss leaves. Aided by an outside facilitator, the group breaks into five or six teams, each to tackle part of the agenda. For a day and a half they list complaints, debate solutions, and prepare presentations for the final day. It's the third day that gives Work-Out its special power. The boss, unaware of what has been going on, comes back and takes a place at the front of the room. One by one, team spokespersons rise to make their proposals. By the rules of the game, the boss can make only three responses: he can agree on the spot; he can say no; or he can ask for more information — in which case he must charter a team to get it by an agreed-upon date.

2. Establish multi-functional teams to identify best practices and increase employee buy-in for initiatives. To identify its best business practices, Johnson Control's Battery Division brought together 42 top managers and supervisors from all 12 plants and all functions and assigned them to five teams. Together they identified and consolidated the division's best practices. In the course of their best practices identification project, the division developed a set of 88 performance measures falling into five critical management areas. They included financial management, production, quality, transportation, and health and safety. Each job area has a handful of measures to monitor the progress of work efforts. The measures help employees to

understand how well they are performing the best practices and how well they are performing relative to their peers in other plants.

3. Create regular forums for best practice sharing to create a culture of improvement. At the heart of the Wal-Mart culture are weekly Saturday morning meetings. At Wal-Mart's Saturday meetings, executives share best practices used by the company's other stores:

- Executives frequently find heroes among the associates in the stores and bring them to Bentonville, praise them in front of the whole meeting and find out how they were successful.

- They read management articles that may be relevant to the business.

- They talk about competitors, and how Wal-Mart can compete more effectively.

- They discuss things that seem unattainable, and "try to figure out how to make it work."

- They often have guest speakers from a wide array of fields. Guests have included Jack Welch, CEO of GE, boxer Sugar Ray Leonard, and country singer Garth Brooks.

- The meetings have an air of spontaneity that allows executives to discuss topics they might not have felt appropriate in a normal meeting with an agenda.

4. Develop an evaluation system that clearly links best practice initiatives to corporate business goals and priorities. GTE Directories (now Verizon) has focused on integrating its best practice initiatives into corporate strategies and business priorities. One simple system to support integration is a project report format that requires every best practice team project proposed in its enterprise to demonstrate:

- How the project will support the organization's Four Business Priorities:

Providing and demonstrating value, building business relationships, enhancing customer service and improving cost-effectiveness to enhance competitiveness;

- How it will support key operating strategies;

- How it will support the company's operational growth goals.

5. Adopt a systematic approach to ensure knowledge management supports strategy. Dow Chemical uses a six-step process for managing intellectual assets. It begins with a focus on strategy:

- Define the role of knowledge in your business - for instance, the importance of intellectual investments to develop new products, vs. brick-and-mortar spending to achieve economies of scale.

- Assess competitors' strategies and knowledge assets.

- Classify your portfolio: What do you have, what do you use, where does it belong.

- Evaluate: What are your assets worth; what do they cost; what will it take to maximize their value; should you keep them, sell them, or abandon them?

- Invest: Based on what you learned about your knowledge assets, identify gaps you must fill to exploit knowledge or holes you should plug to fend off rivals, and either direct R&D there or look for technology to license.

- Assemble your new knowledge portfolio and repeat the process ad infinitum.

6. Archive personnel profiles to identify internal sources of knowledge and competitive intelligence. AT&T employs a database system that can be described as a "sophisticated electronic Rolodex." Known as the AAA system, this database contains one-page personnel profiles that can be used to direct employees to people and information sources that may help

them in their knowledge management, competitive intelligence, and best practice efforts. These profiles include information about each person's knowledge of companies, products, regions, and languages. Each AT&T employee supplies information about himself or herself.

7. Recognize internal experts to encourage sharing of best practices at all levels. Harris Corporation appoints individuals as "certified practice experts" in various knowledge areas. An important aspect of this system is giving workers recognition for their efforts. Harris recognizes its employees with what it calls "walls of fame" — areas in each department where photos of workers who have made a contribution in the area of intellectual capital are on display. Harris believes that public recognition of contributions increases the incentive to participate in knowledge and practice exchange

8. Create a best practice library to guide personal development plans. Pella Corporation has compiled a best practice library (a collection of highly recommended actions) based on the practices and performance of successful Pella distributors across the country. By comparing current practices to those best practices outlined in the library, a Pella distributor self-evaluates his business's strengths and areas for improvement. To make this best practice library even more useful, Pella provides its distributors with easy to build self-improvement guides that help distributors develop personal improvement plans. By noting the changes from one assessment to the next, a distributor can tack his progress over time. Called Blueprint for Success, Pella's documented best practice standards are challenging, incorporating the most effective practices from a number of highly successful distributorships. Pella's best practice library guide is divided into two parts. The first section, called Best Practices, helps the distributor chart his performance against the practices and performance of successful Pella distributors. The second section, called

Action Planning, helps prioritize improvement efforts based on the results of the Best Practices evaluation.

9. Store knowledge in databases and intranets to provide greater company access to information. Booz-Allen & Hamilton, a global management consulting firm, maintains a Knowledge On-Line (KOL) system (an intranet accessible by the Netscape browser). KOL makes it easy to tap experts and ideas regardless of geography or specialty. For example, a consultant in Indonesia helping an oil company improve customer service might want to tap into previous knowledge developed by colleagues in Caracas, Houston, or New York. With a laptop and a phone line, employees can log onto KOL. One icon that appears on the screen is tagged Experts/Resumes/History; by typing a name or a key word, the system delivers a specific colleague's resume or a stack of resumes of consultants who know about the key word subject. Another icon is simply tagged Knowledge. Behind it are various databases that contain about 1,500 documents (the number is growing rapidly), cross-filed by industry and topics, such as reengineering, marketing, and change management. Also available online are various bulletin boards, discussion forums, and training courses.

10. Create profiles of top sellers to encourage others to institute their best practices. To evaluate the operating performance of its sales force, W. R. Grace North America has developed a profile of the company's top sales performers. The profile details a set of best practices that make these superstars successful. It includes how many calls they make per day, what they said to customers, how they built relationships, and their level of product knowledge. The identification of a best practices model provides W. R. Grace with two important benefits. First, it serves as a benchmark to measure the performance of all the company's sales people, who now know exactly what is expected of them. Secondly, the knowledge and techniques of the

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company's best salespeople are captured and documented so that they can be shared and applied throughout the entire organization to enhance its overall capability.

APPENDIX B: OBSTACLES TO KNOWLEDGE RETENTION

- Apathy regarding the sharing of knowledge;

- Reward systems that mitigate against knowledge sharing;

- Differing cultures and subcultures;

- The absence of a common organizational "language";

- Inadequate supportive technology;

- Lack of balance among disciplines, i.e. an over-reliance on information technology (IT) as a driver vs. an enabler, over-reliance on documentation, or over-reliance on people-to-people approaches;

- Development of small work unit efforts, etc. without a coherent enterprise-wide strategy or a "systems thinking" holistic approach;

- Insufficient IT skills to develop sophisticated databases that handle textual information as something other than just "data," necessitating applications of taxonomies, superior searching capabilities, etc.;

- "Hero" syndrome: The desire by employees to be indispensable;

- Knowledge capture and sharing is seen to be additional work.

APPENDIX C: DEAN'S REQUEST FOR PARTICIPATION VIA EMAIL

Given its subject, please forgive the informality of making this request via email, but I thought it best given your incredibly demanding schedule. I am embarking on the research phase of my qualitative dissertation: "Retention of Institutional Memory via Knowledge Management: Perceptions Regarding the Effectiveness of Corporate Approaches Applied in Higher Education." Given that you fit the profile of my target population (past or present deans of public RU/VH institutions in the southern portion of the United States), I would be honored if you would agree to serve, i.e. be interviewed, as one of the participants in my study. I anticipate that the interview will take one to one and a half hours. Upon agreeing on a time, I will send the interview questions and definitions of relevant terms in advance for your review and preparation. Thank you in advance for your support.

APPENDIX D: CONSENT FORM FOR NON-CLINICAL STUDY

1. Study Title: Retention of Institutional Memory via Knowledge Management: Perceptions Regarding the Effectiveness of Corporate Approaches Applied in Higher Education

2. Performance Site: Louisiana State University and Agricultural and Mechanical College

3. Investigator: The following investigator is available for questions about this study – Yvette Marsh (225-572-0422).

4. Purpose of the Study: Research has shown that private industry has a better grasp on knowledge management than in the higher education arena. This study will investigate the perceptions and perspectives regarding the usefulness and value of implementing knowledge management best practices typically employed by businesses in the private sector.

5. Subject Inclusion: Current deans of a RU/VH institution (Research University with Very High research activity as defined by the Carnegie Classification of Institutions of Higher Education) in the southern portion of the United States. The specific university will not be identified and pseudonyms will be used to reference participants.

6. Number of subjects: As few as six (6) and as many as ten (10).

7. Study Procedures: Face to face interviews will be conducted and recorded with subjects and will also include transcription of recordings, participant review of transcription, and participant reflection on themes emerging from initial transcript analysis. Based on a review of the initial analysis, the researcher will perform respondent validation, a method that entails the submission of materials relevant to an investigation for checking by the people who were the source of those materials. To minimize researcher bias during respondent validation, the researcher will avoid interference with this process by allowing participants to review these transcripts independently. An interview guide will be used to create the framework around a series of focused interviews that will be conducted with the participants.

8. Benefits: The study may yield valuable information regarding succession planning in higher education institutions.

9. Risks: The only study risk is the naming of the institution and its subjects. However, the specific university will not be identified and pseudonyms will be used to reference participants.

10.   Right to Refuse: Subjects may choose not to participate or to withdraw from the study at any time without penalty or loss of any benefit to which they might otherwise be entitled.

11.   Privacy: Results of the study may be published, but no names or identifying information will be included in the publication. Subject identity will remain confidential unless disclosure is required by law.

12.   Signatures: The study has been discussed with me and all my questions have been answered. I may direct additional questions regarding study specifics to the investigators. If I have questions about subjects' rights or other concerns, I can contact Dennis Landin, Institutional Review Board,(225) 578-8692, irb@lsu.edu, www.lsu.edu/irb. I agree to participate in the study described above and acknowledge the investigator's obligation to provide me with a signed copy of this consent form.

Subject Signature: _____ Date: _____

APPENDIX E: THANK YOU/FOLLOW UP EMAIL TO PARTICIPANTS

Once again, thank you for your participation in my dissertation interview process. As promised, I've attached the transcript of our interview for your review in order to determine if any inaccuracies exist, if the document contains any comments that, in retrospect, makes you uncomfortable, etc. As a reminder, your identify will be completely withheld and the full transcript will not be included in my final dissertation. A response will be greatly appreciated by Monday, March 14th. Of course, please reply or call with any questions.

APPENDIX F: INSTITUTIONAL REVIEW BOARD APPROVAL

ACTION ON EXEMPTION APPROVAL REQUEST

LSU

Institutional Review Board
Dr. Dennis Landin, Chair
130 David Boyd Hall
Baton Rouge, LA 70803
P: 225.578.8692
F: 225.578.5983
Irb@lsu.edu | lsu.edu/irb

TO: Sonya Marsh
         SHREWD

FROM: Dennis Landin
         Chair, Institutional Review Board

DATE: November 25, 2015

RE: **IRB# E9612**

TITLE: Retention of Institutional Memory Via Knowledge Management: Perceptions Regarding the
         Effectiveness of Corporate Approaches Applied in Higher Education

New Protocol/Modification/Continuation: New Protocol

Review Date: 11/25/2015

Approved_____X_____ **Disapproved**_____

Approval Date: 11/25/2015 **Approval Expiration Date:** 11/24/2018

Exemption Category/Paragraph: 2b

Signed Consent Waived?: No

Re-review frequency: (three years unless otherwise stated)

LSU Proposal Number (if applicable):

Protocol Matches Scope of Work in Grant proposal: (if applicable)

By: Dennis Landin, Chairman _____

PRINCIPAL INVESTIGATOR: PLEASE READ THE FOLLOWING –
Continuing approval is CONDITIONAL on:
1. Adherence to the approved protocol, familiarity with, and adherence to the ethical standards of the Belmont Report, and LSU's Assurance of Compliance with DHHS regulations for the protection of human subjects*
2. Prior approval of a change in protocol, including revision of the consent documents or an increase in the number of subjects over that approved.
3. Obtaining renewed approval (or submittal of a termination report), prior to the approval expiration date, upon   request by the IRB office (irrespective of when the project actually begins); notification of project termination.
4. Retention of documentation of informed consent and study records for at least 3 years after the study ends.
5. Continuing attention to the physical and psychological well-being and informed consent of the individual participants, including notification of new information that might affect consent.
6. A prompt report to the IRB of any adverse event affecting a participant potentially arising from the study.
7. Notification of the IRB of a serious compliance failure.
8. SPECIAL NOTE: Participants need to resign consent.

*All investigators and support staff have access to copies of the Belmont Report, LSU's Assurance with DHHS, DHHS
   (45 CFR 46) and FDA regulations governing use of human subjects, and other relevant documents in print in this
   office or on our World Wide Web site at http://www.lsu.edu/irb

VITA

Sonya Yvette Marsh is a proud native of Baton Rouge, Louisiana. After graduating from Baton Rouge Magnet High School in 1981, she earned a Bachelor of Science degree in Business Administration and a Master of Science degree in information Systems and Decision Sciences, both from the E.J. Ourso College of Business at Louisiana State University. She completed her doctoral coursework in School of Human Resource Education and Workforce Development in LSU's College of Human Sciences and Education in 2013 and is expected to receive her Doctorate of Philosophy in August 2016. Marsh is currently employed as the Senior Director of Talent Management for the LSU Foundation.