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PARTICIPANT PERCEPTIONS OF KNOWLEDGE SHARING IN A HIGHER EDUCATION  
COMMUNITY OF PRACTICE

by

Shawn Whittaker Brayton

A dissertation proposal submitted to the Department of Leadership, School Counseling, and  
Sport Management in partial fulfillment of the requirements for the degree of

Doctorate of Educational Leadership

UNIVERSITY OF NORTH FLORIDA  
COLLEGE OF EDUCATION AND HUMAN SERVICES

Summer, 2016

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## **Dedication**

To my soul mate and love of my life, Jeff. Without your love, support, and patience this dissertation would never have become a reality—it would have remained a dream!

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## ABSTRACT

As the source of economic wealth continues to transition from a late industrial era to an early knowledge era, the foundation of success in the 21<sup>st</sup> century relates to a dependency on knowledge-based assets such as ideas, processes, and information (Alavi & Leidner, 2001; Sallis & Jones, 2002; Søndergaard, Kerr, & Clegg, 2007; Sveiby, 1997). During this transition, the emergent discipline of knowledge management in business and in education has evolved from a techno-centric approach (Alavi & Leidner, 2001; McAdam & McGreedy, 1999; McElroy, 2000) to a holistic social process oriented toward meeting institutional demands for new knowledge and geared toward learning and innovation (McElroy, 2003; Sallis & Jones, 2002).

Prior research has indicated a need to examine the use of a community of practice model as a knowledge management strategy (Ramchand & Pan, 2012; Roberts, 2006; Ropes, 2009). This qualitative research study presented an examination of the knowledge-sharing perceptions of members of a public postsecondary state university system (SUS) community of practice comprised of university registrars. Data collection used in-depth, semi-structured interviews.

Analysis of data strongly indicated that the registrars were engaged in collective learning with a strong emphasis on problem-solving. Furthermore, data analysis provided evidence that the participants' community of practice had synergistic value within the SUS. Moreover, data analysis substantiated that the significant engagement in knowledge sharing activities and the subsequent knowledge development were facilitated by social processes. As a result, this study of the SUS registrar community of practice can serve as a knowledge management strategy.

**Keywords:** Knowledge Management, Knowledge Sharing, Community of Practice

## CHAPTER 1

### INTRODUCTION

The development of economic wealth in the United States has taken place during four distinct eras—the agricultural era, the early industrial era, the late industrial era, and the early knowledge era. Across the first three eras, the source of economic wealth shifted from land to labor, and subsequently from labor to capital (Savage, 1990). The transitions from one era to another have been characterized as paradigm shifts because the underlying assumptions associated with the sources of economic wealth have changed.

Toward the end of the 20<sup>th</sup> century, the source of economic wealth was in the midst of another fundamental paradigm shift from the late industrial era to what many have termed the knowledge era or knowledge society (Drucker, 1993; Santo, 2005; Uhl-Bien, Marion, & McKelvey, 2007). For the purposes of this study, the term early knowledge era will be used to capture the nascence of the knowledge era. For example, the advent of the Internet and the World Wide Web, accompanied by technological innovation, increased the connectivity of people to information and to each other at an unprecedented rate (Lin, 2001). This expansion of connectivity among people and with regard to information has served as a catalyst for the transition of the economic source of wealth from capital to knowledge. Consequently, the foundation of success in the 21<sup>st</sup> century relates to a dependency on knowledge-based assets such as ideas, processes, and information (Alavi & Leidner, 2001; Sallis & Jones, 2002; Søndergaard, Kerr, & Clegg, 2007; Sveiby, 1997). In other words, the economic source of wealth is no longer solely based upon the use of natural resources, human labor, or fiscal resources. In addition, economic wealth is predicated on what people know and do.

In today's globally connected, competitive environment, the business sector has gradually accepted the premise that institutional longevity and sustainability is based on knowledge-based assets (Alavi & Leidner, 2001; Sallis & Jones, 2002; Søndergaard et al., 2007; Sveiby, 1997). Similarly, these notions are beginning to gain traction within the public higher education sector in the United States (Sallis & Jones, 2002). This traction is spurred by the changing landscape of public higher education. Institutions of higher education are evolving in scope and complexity due to the growth in private sector competition, changes in U.S. population demographics, decreased taxpayer support, and increased calls for accountability and continuous improvement (Eckel, 2003; Leveille, 2005; Zemsky, 2009; Zumeta, Breneman, Callan, & Finney, 2012). The recognition that knowledge is an essential institutional asset has accentuated the need for public higher education leaders to explore new approaches to decision-making. That is, converting knowledge into actionable knowledge to guide institutional improvement initiatives has become a centered focus in higher education (Kidwell, Vander Linde, & Johnson, 2000; Norris, Mason, Robson, Lefrere, & Collier, 2003; Petrides & Nodine, 2003).

As public institutions of higher education continue the transition from the late industrial era to the early knowledge era, their institutional leaders are questioning fundamental beliefs and existing ways of working (Eckel & Kezar, 2003; Fullan, 2001; Savage, 1996; Senge, 1990). While adapting to this new paradigm, these leaders are beginning to discover a need to adjust institutional approaches because traditional approaches are not "well-suited for a more knowledge-oriented economy" (Uhl-Bien et al., 2007, p. 298). These institutional adjustments can present difficult challenges to overcome. One such challenge is altering cultural norms and instilling a climate that encourages practitioners to share their knowledge willingly with each other. Fostering a climate that encourages knowledge sharing and knowledge creation will

require institutions to establish and support collaborative initiatives (Davenport & Prusak, 1998; Leo, Alexander, & Kieffer, 2001; Sallis & Jones, 2002).

Furthermore, the initiation of social processes to increase knowledge sharing and knowledge creation will require institutional interventions and investments (McElroy, 2003). Knowledge sharing and subsequent knowledge creation have been portrayed as occurring through a story-telling social process that is facilitated by the use of technology (Brown & Duguid, 2000; McElroy, 2000, 2003; Sallis & Jones, 2002; Snowden, 2002). For example, people use a variety of information communication technologies such as email, instant messaging, video chat, blogs, and discussion forums as means to tell stories and share knowledge. In order for institutions to realize a significant benefit from this story-telling social process, leaders need to foster a knowledge-friendly institutional culture (Davenport & Prusak, 1998; De Long & Fahey, 2000; O'Dell & Grayson, 1999; Palanisamy, 2007; Zheng, Yang, & McLean, 2010).

Fostering a knowledge-friendly institutional culture is of vital importance in the process of moving from the late industrial era to the early knowledge era (Uhl-Bien et al., 2007). Institutional culture is built on the relationships among people and their experiences, beliefs, and values (Schein, 1992). As such, people share a common language and perspectives which enable them to interpret situations similarly (Pugh & Hickson, 1997). A review of the pertinent literature indicated that the lack of a knowledge-friendly culture may encourage people to protect their knowledge rather than to voluntarily share it with others (Bennet, 2001; De Long and Fahey, 2000). Some scholars have noted that at a minimum, steps will need to be taken to promulgate policies and implement processes designed to foster a sharing culture that will stimulate knowledge sharing activities (Becheikh, Ziam, Idrissi, Castonguay, & Landry, 2010;

Davenport & Prusak, 1998; Leo et al., 2001; McElroy, 2003; Sallis & Jones, 2002; Schein, 1992).

In addition to promulgating policies and implementing processes, leaders also need to be attentive to institutional structures. For instance, existing institutional hierarchical and physical infrastructures have inadvertently erected information silos (Davenport & Prusak, 1998). With higher education faculty, these silos relate to institutional structures delineated by academic disciplines (Norris et al., 2003). Institutional leaders with a desire to promote a climate of knowledge sharing and knowledge creation will need to counteract these information silos through the creation of permeable boundaries (Davenport & Prusak, 1998; Savage, 1996; Tobin, 1998). That is, people should be encouraged to cross institutional hierarchical boundaries, both vertically and horizontally, to come together, physically or virtually, to exchange ideas, to share knowledge and skills, and concomitantly, to learn from others.

One approach for creating permeable boundaries is the use of a community of practice model (Wenger, McDermott, & Snyder, 2002). A community of practice model emphasizes the gathering of people, physically or virtually, who share a common interest. The members of a community of practice spend time in order to share their knowledge and experiences with others willingly. During this sharing process, the members often engage in negotiated meaning-making. In other words, the members engage in a process whereby clarification and rephrasing occur as a means to confirm what was conveyed. In the end, members often create new knowledge to address common issues discussed within the community. In recent years, some researchers have shown communities of practice to be influential in the expansion of knowledge and its dissemination within institutional settings (Becheikh et al., 2010; Chetty & Mearns, 2012; McElroy, 2003; Norris et al., 2003; Petrides & Nodine, 2003).

### **Statement of the Problem**

Business and educational sectors have begun to focus on knowledge-based assets as a means for achieving institutional sustainability as they continue to transition from a late industrial era to an early knowledge era. (Sallis & Jones, 2002; Søndergaard et al., 2007; Uhl-Bien et al., 2007). At the same time, rising stakeholder accountability and continuous improvement initiatives are highlighting the challenges associated with transitioning from an industrial era to a knowledge era. For instance, accountability implies a set of norms and rules as mechanisms for gauging compliance (Leveille, 2005). Often compliance mechanisms are employed as top-down, bureaucratic, accountability measures—a distinguishing characteristic of the late industrial era. Furthermore, the concept of continuous improvement includes an expectation of continual adjustments geared toward efficacy, efficiency, and quality—also markers of late industrial era thinking.

Increasingly, these accountability mandates and improvement initiatives have presented institutional leaders with adaptive challenges that necessitate the application of a systems-oriented approach that involves rethinking not only what they do, but how they do it (Brown & Duguid, 2000; Senge, 1990; Uhl-Bien et al., 2007). In other words, public postsecondary institutional leaders are no longer able to address the accountability mandates and improvement initiatives through the “application of authoritative expertise or through the organization’s current structures, procedures, and ways of doing things” (Heifetz, Grashow, & Linsky, 2009, p. 19). Instead, these leaders are being challenged to become adaptable and innovative (Christensen & Eyring, 2011; Petrides & Nguyen, 2006), which requires the adoption of new “patterns of behavior” (Uhl-Bien et al., 2007, p. 300)—characteristics of the early knowledge era. To this end, public postsecondary institutions are beginning to embrace early knowledge era



strategies in order to address late industrial era mandates while also meeting the demands of the 21<sup>st</sup> century (Kidwell et al., 2000).

Applying a systems-oriented approach to re-conceptualize what is done and how it is done can enable people to take on several tasks: (a) identifying past practices to maintain, (b) determining which practices to eliminate, and (c) applying best practices to innovate for the future (Heifetz et al., 2009). Such an approach may enable institutions to foster an adaptive and innovative problem-solving environment with an emphasis on increasing institutional capacity and capability to combine and apply knowledge (Brown & Duguid, 2000; Senge, 1990). An adaptive and innovative problem-solving environment can serve as an incubator of knowledge management initiatives designed to improve institutional knowledge sharing and knowledge creation (Petrides & Nodine, 2003; Sallis & Jones, 2002). Consequently, these institutions would be better prepared to diagnose the challenges associated with continuous improvement initiatives and accountability mandates.

At the turn of the 21<sup>st</sup> century, several scholars pointed to the need for further exploration of institutional approaches that foster knowledge sharing and innovation (Alavi & Leidner, 2001; Davenport & Prusak, 1998). One such approach that has been studied is a community of practice model (Harvey, Cohendet, Simon, & Dubois, 2013; Kislov, Walshe, & Harvey, 2012; Lave & Wenger, 1991; Wenger, 1998; Wenger et al., 2002; Wenger & Synder, 2000). Researchers have identified benefits and limitations with respect to the use of communities of practice as a knowledge management strategy (Chetty & Mearns, 2012; Hilliard, 2012; Ramchand & Pan, 2012; Roberts, 2006; Wenger, 2004).

A review of the literature revealed that a community of practice can serve as a beneficial social platform where collective knowledge sharing occurs (Chetty & Mearns, 2012; Hilliard,

2012). Moreover, a community of practice can instill an atmosphere that is “conducive to learning” (Chetty & Mearns, 2012, p. 8) and thus can contribute to institutional learning (Brown & Duguid, 1991; Chetty & Mearns, 2012; Hilliard, 2012). Further, a community of practice can serve as an environment for increasing social capital which can result in the establishment of a cohesive, problem-solving coalition (Cohen & Prusak, 2001; Ropes, 2009).

In contrast, limitations with regard to the use a community of practice as a knowledge management strategy have also been identified (Roberts, 2006; Wenger et al., 2002). For instance, some scholars have asserted that relationships among members could inadvertently erect barriers to newcomers with different ideas (Cohen & Prusak, 2001; Wenger et al., 2002). Another example indicated that distributed communities of practice—those that lack regular face-to-face interaction—can encounter challenges with establishing trust and personal relationships (Wenger et al., 2002).

Scholars have acknowledged that both the discipline of knowledge management (McAdam & McGreedy, 1999; McElroy, 2000; Snowden, 2002; Steyn, 2004) and the use of a community of practice as a knowledge management approach (Roberts, 2006; Ropes, 2009; Wenger et al., 2002) are still evolving. Thus, additional empirical studies are needed to gain a better understanding of the benefits and limitations with regard to the use of a community of practice as a knowledge management approach (Ramchand & Pan, 2012; Roberts, 2006; Ropes, 2009). For instance, more research is needed to gain an understanding of how trust and communication function among community of practice members from different institutions (Roberts, 2006; Wenger et al, 2002).

As noted by one scholar, there is a lack of research on “how communities of practice work when participants come from different institutions” (Ropes, 2009, p. 400). From this

perspective, it might be helpful to explore how members of a community of practice describe their learning relationships. An empirical study designed to gain insights on how members of a community of practice perceived their learning relationships could add needed empirical evidence as to the application of a community of practice as a knowledge management strategy.

### **Purpose of the Study and Research Question**

The purpose of this study was to explore how members of a community of practice within a state university system perceived their knowledge sharing and subsequent knowledge development experiences within the context of accountability and continuous improvement. Many State University Systems (SUS) in the United States are currently focused on addressing accountability mandates and continuous improvement initiatives (Zusman, 2005). Using a SUS community of practice for the present research study provided an opportunity to explore how the members, each from a different institution, characterized their learning relationships. In other words, this study enabled the researcher to gain insights into how the community of practice functioned across institutional boundaries (Ropes, 2009; Wenger et al., 2002).

Specifically, this study explored knowledge sharing perceptions within a community of practice comprised of university registrars within a public postsecondary SUS. The study investigated the following question: How do members of a community of practice describe their knowledge sharing and knowledge development experiences within the context of accountability and continuous improvement? To address this question, the study had two areas of focus. First, the study explored member perceptions of the process of gaining a shared understanding of an issue of mutual interest. Second, the study examined how members described their knowledge sharing and knowledge development experiences in the community of practice.

The actual formation or evolution of a community of practice was beyond the scope of this research study. Rather, the study described the meaning-making processes associated with knowledge sharing and knowledge creation. This study contributes empirical evidence as to the application of a community of practice as a knowledge management strategy.

### **Significance of the Research**

As noted in the review of the literature, consensus exists that first-generation knowledge management is a techno-centric approach designed to collect, store, and distribute knowledge (Alavi & Leidner, 2001; Grant & Grant, 2008; McAdam & McGreedy, 1999; McElroy, 2000; Snowden, 2002; Tuomi, 2002). Further, the literature indicated that next generation knowledge management beyond the techno-centric approach will be based upon the human social system (McElroy, 2003; Snowden, 2002). As such, institutions are increasingly attentive to fostering sustainable and successful social processes to increase knowledge sharing and creation (McElroy, 2003). One such approach has been the use of a community of practice model (Becheikh et al., 2010; McElroy, 2003; Norris et al., 2003; Petrides & Nodine, 2003).

The review of the literature revealed that there is very little empirical evidence as to the application of a community of practice model as a knowledge management strategy (Ramchand & Pan, 2012; Roberts, 2006; Ropes, 2009). Additionally, the literature indicated a need for further research in order to gain an understanding of the synergistic value of communities of practice that span institutional boundaries (Roberts, 2006) as well as the extent of participant engagement in knowledge sharing activities (Hemmasi & Csanda, 2009). The present study of participant perceptions of knowledge sharing in a community of practice within a state university system contributes to the base of empirical evidence with respect to the application of a community of practice model as a knowledge management strategy within their professional

environment. To this end, this study offers insight into the synergistic value and the extent of participant engagement in knowledge sharing activities within a community of practice that spans institutional boundaries.

### **Definition of Terms**

Understanding the concepts explored in this case study requires a common vocabulary.

The following terms are used within this dissertation.

Accountability in higher education: “a systematic method to assure those inside and outside the higher education system that colleges and universities—and students—are moving toward desired goals” (Leveille, 2005, p. 10).

Communities of practice: “groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis” (Wenger et al., 2002, p. 4).

Continuous Improvement: a process to “continually improve . . . programs and operations, fostering innovations that will better serve their customers’ needs” (Leveille, 2005, p. 11).

Enterprise Resource Planning (ERP): “a packaged business software system that enables a company to manage the efficient and effective use of resources by providing a total, integrated solution for the organization’s information-processing needs” (as cited in Palanisamy, 2007, p. 100).

Knowledge development: “turning information into knowledge is a social process . . . [requiring] good relationships” (Fullan, 2001, p. 6). For the purposes of this research study, the terms knowledge development and knowledge creation are used interchangeably.

Knowledge management: “different views of knowledge lead to different perceptions of knowledge management” (Alavi & Leidner, 2001, p. 110). For the purposes of this research study, knowledge is viewed as a process. Therefore, knowledge management is focused “on knowledge flow and the processes of creation, sharing, and distribution of knowledge” (Alavi & Leidner, 2001, p. 110).

Knowledge sharing: “the willingness of individuals in an organization to share with others the knowledge they have acquired or created” (Bock, Zmud, & Lee, 2005, p. 88). For the purposes of this research study, the terms knowledge sharing and knowledge transfer are used interchangeably.

Negotiated meaning: “within communities of practice, meaning is negotiated through a process of participation and reification” (Wenger, 1998, p. 58).

Paradigm: “a worldview—a way of thinking about and making sense of the complexities of the real world” (Patton, 2002, p. 69).

Public institution of higher education: a state subsidized and state authorized educational institution that provides a program of education beyond secondary education and is accredited by a nationally recognized accrediting agency (The Higher Education Act, 1965).

Reification: “process of giving form to our experience by producing objects that congeal this experience into ‘thingness’” (Wenger, 1998, p. 58).

Social capital: “consists of the stock of active connections among people: the trust, mutual understanding, and shared values and behaviors that bind the members of human networks and communities and make cooperative action possible” (Cohen & Prusak, 2001).

## Summary

The notion that sustained viability and success in the knowledge era are predicated on knowledge-based institutional intangible assets is gaining traction within the public higher education sector (Sallis & Jones, 2002). At the same time, governing bodies are increasingly imposing accountability and continuous improvement mandates (Zumeta et al. 2012; Zusman, 2005). To meet these demands, public postsecondary institutions are embracing early knowledge era strategies in order to address late industrial era mandates while also meeting demands of the 21<sup>st</sup> century (Petrides & Nguyen, 2006; Sallis & Jones, 2002). To accomplish this feat, many scholars envision the implementation of knowledge management initiatives as collaborative social interactions, facilitated by technology, that result in learning and innovation (Janz & Prasarnphanich, 2003; Jasimuddin, Connell, & Klein, 2012; Saint-Onge, 2005; Thomas, Kellogg, & Erickson, 2001).

This chapter provided the background for and justification of a qualitative research study focused on the examination of knowledge sharing in a community of practice within a public state university system. This study was directed toward increasing understanding of that phenomenon. Chapter 2 provides a review of the germane literature and included a conceptual framework for the study. Chapter 3 outlines the qualitative research methodology used to conduct the study. Chapter 4 addresses both the data analysis approaches used in the present study and the analysis of the data collected. Chapter 5 provides a summary of the present study, a discussion of the conclusions from the study, implications for educational leadership, and recommendations for future research.

## **CHAPTER 2**

### **LITERATURE REVIEW**

During the latter part of the 20<sup>th</sup> century and the first part of the 21<sup>st</sup> century, the world's knowledge has become more readily available to the masses as a result of tremendous technological innovations—the Internet, portable personal computers, smart phones. At the same time, the global business environment was besieged with increasing consumer demands for products and services to meet personal needs. As a result, knowledge has become an instrumental intangible institutional asset.

The review of the literature contained in this chapter is focused on five distinct and yet inter-related topics. The first topic examines the shift of economic wealth within the U.S. from the colonial era, circa 1600s, through the early knowledge era that began in the mid-1980s. Because knowledge is considered an instrumental intangible institutional asset in the early knowledge era, the basic concepts of explicit and tacit human knowledge is reviewed in section two.

In response to increasing institutional emphasis on intangible knowledge-based assets, the paradigm shift to the early knowledge era is accompanied by the emergent discipline of knowledge management. The focal point of section three is the exploration of differing theoretical perspectives of the knowledge management discipline. The review of the literature identified a variety of scholarly suppositions about the current and future state of knowledge management. As the discipline of knowledge management continues to mature, institutions have an increased awareness of and focus on knowledge sharing and creation.

Shifting from a late industrial era to an early knowledge era can be a convoluted process. An individual's knowledge, in the late industrial era, is perceived as the most valuable asset to



possess. In contrast, the early knowledge era embraces peer-to-peer networking focused on sharing knowledge and learning. Section four explores the conflict between the late industrial era and early knowledge era paradigms with an emphasis on fostering a knowledge-friendly institutional culture. The last section explores the use of communities of practice as a mechanism to facilitate the flow of existing knowledge and the creation of new knowledge.

The literature review chapter culminates with a discussion about the conceptual framework for this study. The conceptual framework contains a number of pertinent concepts associated with an adaptive, innovative, and collaborative problem-solving environment oriented towards knowledge sharing and creation. This conceptual framework will be used to guide the current research study.

### **Economic Wealth—Paradigm Shifts**

As technology and the world business environment continued to rapidly evolve during the latter part of the 20<sup>th</sup> century, the source of economic wealth and the philosophy of management were in the midst of a fundamental shift (Davenport & Prusak, 1998; Drucker, 1993; Savage, 1990; Stewart, 1997). During the last millennium, human's accumulated wealth through the "use of land, labor, and capital" (Savage, 1990, p. xx). The next millennium will require a new resource (Drucker, 1993; Stewart, 1997). Some have characterized the new source of economic wealth as "collective brainpower" defined as "intellectual material—knowledge, information, intellectual property, experience—that can be put to use to create wealth" (Stewart, 1997, p. x).

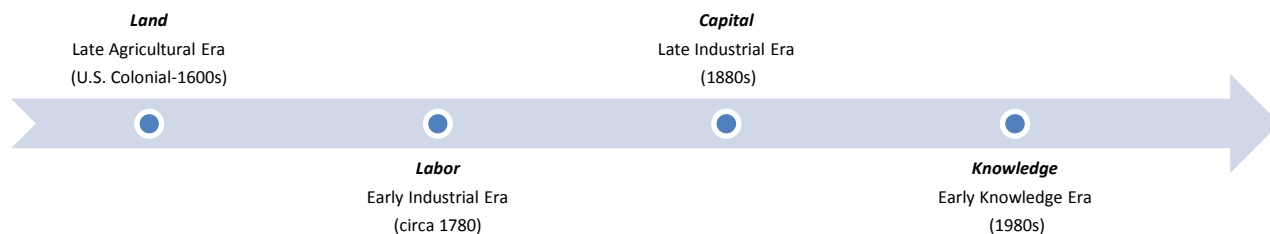
As early as 1776, Adam Smith (1776/1987) indicated that objects such as land and tools alone could not contribute to a nation's wealth without the application of knowledge to produce a valuable yield. During the latter part of the 20<sup>th</sup> century, some economists began to publicly

acknowledge that the ideas of people could become an unlimited source of economic wealth because these ideas would contribute to innovation, technological change, and the creation of knowledge-based products (Romer, 1993). This economic perspective was in stark contrast to the traditional view of economics as the production and consumption of goods and services based on the use of “limited resources that decrease when shared to produce a world of scarcity” (Halal, 1998, p. 3).

The work of several scholars provides a frame of reference for describing three major paradigm shifts of the source of economic wealth over the last 350 years. This frame also contextualizes the addition of a fourth paradigm (Drucker, 1993; Savage, 1990; Stewart, 1997).

Figure 1

#### U. S. Shifts in the Source of Economic Wealth



Each paradigm shift possessed a dominant source of economic wealth (Savage, 1990). As Figure 1 illustrates, during the late agricultural era, the economic source of wealth was in the form of land. As the population in the new world increased, primarily due to European immigration, so did the demand for goods and services. This increased demand for goods and services was a catalyst for the rise of certain industries in the early industrial era, such as textiles and shipbuilding (Leap, 1994). The source of wealth shifted from land to labor as people moved away from rural farms and plantations to work in factories located in the cities (Savage, 1990). During this transition to factory work, proprietorships, using the concepts of division and

subdivision of labor, emerged as a convenient way to organize people, resources, and technology (Savage, 1990; Smith, 1776/1987).

Approximately 100 years later, the shift from the early industrial era to the late industrial era took place. With the development of technology designed to facilitate transportation and communication such as railroads and the telegraph, the source of economic wealth became more dependent on capital (Savage, 1990). From an institutional perspective, the geographic expansion of the railroad and telegraph industries resulted in proprietorships evolving into steep hierarchies (Chandler & Daems, 1980). The steep hierarchal structure still maintained Smith's (1776/1987) concepts of division and subdivision of labor. And by the 1900s, these concepts had been reinforced by Frederick Taylor's theories of Scientific Management (Taylor, 1916) and Henri Fayol's (1949) 14 principles of management.

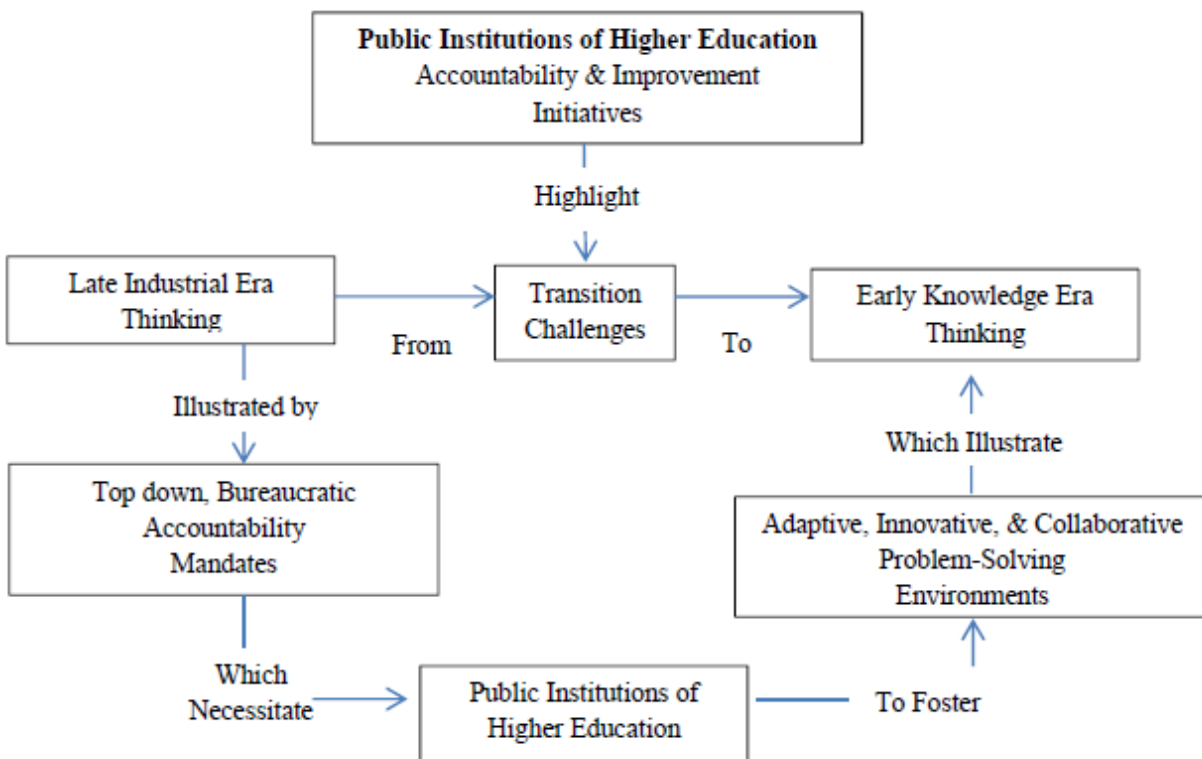
Toward the end of the 20th century, dramatic changes in global competition, advances in computer technology, and customer demands for goods and services that meet individual needs once again ignited the shift in the source of wealth (Cohen, Smith, Prusak, & Azzarello, 1997). The source of economic wealth was transitioning from natural resources, human labor, and fiscal resources to what people know. Early knowledge era workers were being characterized as "knowledge workers" (Drucker, 1993, p. 8). Over the years, Drucker continued to note the "rise in influence of the knowledge worker" (Goldsmith, 1997, p. 261).

As business firms continue to transition into early knowledge era services, intangible knowledge assets such as ideas, processes, and information are increasingly important (Alavi & Leidner, 2001; Sallis & Jones, 2002; Søndergaard et al., 2007; Sveiby, 1997). Business leaders have gradually accepted the premise that institutional longevity and sustainability in today's knowledge-based environment are predicated on an institution's capability and capacity to

combine and apply the knowledge embedded within institutional culture and individual employees (Alavi & Leidner, 2001; Saint-Onge, 2005; Savage, 1996; Senge, 2006). These business sector inclinations are slowly gaining traction in the public education domain (Sallis & Jones, 2002). That is, public educational entities are beginning to comprehend that knowledge-based assets have the potential to provide tremendous benefits. Thus, institutions of higher education are also experiencing the shift from the late industrial era to the early knowledge era.

Figure 2

Late Industrial Era to Early Knowledge Era Transition Challenges for Public Institutions of Higher Education



In response to industrial paradigm mandates, public postsecondary institutions are being challenged to become adaptable and innovative (Christensen & Eyring, 2011; Heifetz et al., 2009; Petrides & Nguyen, 2006). Increasing legislative demands for accountability, for example,

have posed transition challenges for institutions of higher of education. As depicted in Figure 2, these rising stakeholder accountability and improvement initiatives in the public postsecondary education sector have also highlighted the challenges associated with transitioning from an industrial era to a knowledge era. From the perspective of higher education governance, accountability mandates clearly illustrate a top-down, bureaucratic, industrial era mindset.

In order to meet these accountability demands, institutions of public higher education require access to timely and accurate data, information, and institutional knowledge (Lombardi & Capaldi, 1996). But mere access to data, information, and institutional knowledge are not sufficient (Petrides & Nguyen, 2006). Fostering an adaptive, innovative, and collaborative problem-solving environment required to effectively address these accountability mandates and improvement initiatives necessitates a systems-oriented approach that involves institutions rethinking not only what they do, but how they do it (Brown & Duguid, 2000; Senge, 1990).

The need to reconceive institutional knowledge strategies and practices was affirmed at the 2002 Knowledge Management in Education Summit (Petrides & Nodine, 2003). Higher education Summit participants agreed that improvements in decision-making efficacy could be derived from knowledge management practices. Accordingly, postsecondary leaders initiated various forms of knowledge management initiatives designed to improve institutional knowledge sharing (Petrides & Nodine, 2003). In addition to improving institutional knowledge sharing, knowledge management initiatives have also been designed to organize, leverage, and add value through the creation of new knowledge (Sallis & Jones, 2002). For instance, three early knowledge management pioneers—Cuyahoga Community College in Cleveland, Jackson State University in Mississippi, and Foothill De Anza Community College District in California—

initiated projects with funding from local and federal grants such as FIPSE (Fund for the Improvement of Postsecondary Education) and Title III (Petrides & Nodine, 2003).

Specifically, the knowledge management initiative at Cuyahoga Community College focused on faculty energy. To gain a better understanding of the obstacles faculty were encountering, a knowledge audit was conducted in the form of faculty and staff interviews. The audit revealed that

faculty were very frustrated with the college's curriculum and program approval process, which faculty felt was too cumbersome and prevented them from responding promptly to the needs of the community for new courses and programs. Building on existing faculty committees, a community of practice (CoP) was established to tap into faculty energy in this area, bring in those who needed to be involved in the process (including deans and administrators), and discuss and institute the changes that would enable the organization to improve. The effect has been to empower people to share information laterally and vertically in the college, which in turn has created organizational changes that have significantly improved work processes. (Petrides & Nodine, 2003, p. 26)

Cuyahoga Community College's pioneering knowledge management initiative demonstrated that some public higher education institutions are in the process of transitioning to the early knowledge era through systems-oriented approaches designed to improve knowledge sharing and decision-making efficacy.

### **Human Knowledge**

Understanding the concepts associated with knowledge management initiatives requires an understanding of human knowledge. Knowledge exists in many forms such as facts, information, concepts, processes, skills, and familiarity with something or someone. However,

human beings know more than they are capable of telling (Polanyi, 1966). Human knowledge thus can be subdivided into two categories—explicit and tacit. Explicit knowledge refers to data, information, and codified procedures, such as patents, that are easily shared (Davenport & Prusak, 1998). Tacit knowledge, on the other hand, is not easily shared because individuals possess it in their minds in a form that is not easily articulated (Fahey & Prusak, 1998; Jasimuddin et al., 2012; Nonaka & Takeuchi, 1995; Pan & Scarborough, 1999; Polanyi, 1966). Tacit knowledge can be bifurcated as: (a) cognitive tacit knowledge, such as intuition, experiences, and mental models; and (b) technical tacit knowledge reflected as know-how (Alavi & Leidner, 2001; Nonaka & Takeuchi, 1995; Senge, 2006).

From a business perspective, Davenport and Prusak (1998) approached the definition of knowledge by making a distinction between the terms data, information, and knowledge as used within an institutional context. Data are thought of as discrete facts about events, whereas information is actionable data because they have contextual meaning. In other words, information is “data endowed with relevance and purpose” (Drucker, 2006, p. 129). On the basis of these distinctions, Davenport and Prusak (1998) proffered a pragmatic definition of knowledge:

Knowledge is a flux mix of framed experiences, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information. It originates and is applied in the minds of knowers. In organizations, it often becomes embedded not only in documents or repositories but also in organizational routines, processes, practices, and norms. (p. 5)

Similarly, from an educational perspective, knowledge is conceived as the result of a sense-making process where humans gain an understanding of something through evaluation and

interpretation. Sallis and Jones (2002), focused on K-12 and postsecondary educational settings, defined knowledge as

a key organizational asset that creates and adds value to the organization's products and services. It is composed of those insights and understandings that give meaning to the information and data at the organization's disposal. Knowledge originates in the minds of knowing subjects, who evaluate and interpret it in the light of the framework provided by their experiences, values, culture and learning. In the organizational context, knowledge takes a range of explicit forms and formats, including processes, procedures and documents, as well as more tacit forms, including values, beliefs, emotions, judgements and prejudices. If properly applied, all forms of knowledge can provide the driving force for action. (p. 10)

Both business and educational perspectives on knowledge addressed the transformation of human knowledge into tacit and explicit institutional knowledge. The manifestation of these transformations can be illustrated through institutional values, practices, routines, and procedures.

Expanding upon these definitions, institutional knowledge in business and educational settings can be conceptualized as staff capability to "draw distinctions . . . [while] enacting sets of generalizations whose application depends on historically evolved collective understandings" (Tsoukas & Vladimirou, 2001, p. 976). In view of the assertion that these generalizations are based upon historically evolved collective understandings, institutional knowledge is constantly evolving as a result of changes occurring within an institution (Allee, 1999). These institutional changes can include alterations in services to changes in staff roles and relationships.



Institutional change will involve changes in knowledge. Knowledge has an evolutionary dimension because people have a need to make sense of their experiences (Ginsburg & Opper, 1988). When individuals encounter new experiences, their knowledge schemas are reshaped through the processes of assimilation and accommodation (Ginsburg & Opper, 1988). Accordingly, as human knowledge evolves, an institution's knowledge evolves as well.

The changing nature of institutional knowledge, combined with the acknowledgement that knowledge is an essential institutional asset, has led many postsecondary institutions to search for "better ways to transform that knowledge into effective decision-making and action" (Petrides & Nodine, 2003, p. 12). The implementation of effective knowledge management initiatives in higher education can result in cost reductions, improved services, and enhanced decision-making capabilities (Kidwell et al., 2000).

### **Knowledge Management**

As the source of economic wealth continues to shift from natural resources, human labor, and fiscal resources to what people know, intangible knowledge assets such as ideas, processes, and information, have become increasingly important (Alavi & Leidner, 2001; Sallis & Jones, 2002; Søndergaard et al., 2007; Sveiby, 1997). During the latter part of the 20<sup>th</sup> century, the discipline of knowledge management emerged in response to the rise in value of intangible knowledge assets (Alavi & Leidner, 2001; Davenport & Prusak, 1998; Drucker, 1993; Nonaka & Takeuchi, 1995).

The knowledge management literature presents differing theoretical perspectives on knowledge management ranging from mechanistic to social orientations (McAdam & McGreedy, 1999; Steyn, 2004). One perspective, focused on theories of information and information technology, emphasizes the use of centralized computer databases to collect, codify,

and disseminate institutional knowledge to knowledge workers (Alavi & Leidner, 2001; McAdam & McGreedy, 1999; McElroy, 2000). McElroy (2000) characterized this technology-centric perspective as first-generation knowledge management. Peter Senge (Karlenszig, 1999) conveyed his qualms that first-generation knowledge management

hasn't been about knowledge at all. It's been about information—how to capture it, store it, retrieve it, access it and all that stuff . . . [little more than] a great excuse to sell a lot of information technology under the guise of managing knowledge. (as cited in McElroy, 2000, p. 199)

This first-generation knowledge management perspective disregarded the social factors associated with placing collected information within appropriate contexts and learning dimensions (Thomas et al., 2001).

A second theoretical perspective regarding knowledge management was aligned with theories about the knowledge embedded in the minds of people and the creation of knowledge (McAdam & McGreedy, 1999). Many scholars asserted that knowledge management should be viewed as a business practice which requires a knowledge-centered learning culture as opposed to a technology (Janz & Prasarnphanich, 2003; Jasimuddin et al., 2012; Saint-Onge, 2005; Thomas et al., 2001). This second-generation knowledge management perspective has been characterized as a strategy where learning and the creation of knowledge become visible (McElroy, 2000; Steyn, 2004). Within this context, Steyn (2004) defined knowledge management as “the collective knowledge of an organization. . . . an integrated approach to identify, manage, share and capitalise on the know-how, experience and intellectual capital of staff in an organisation” (p. 619).

Another theoretical perspective, based on complexity theory, proposed a change in how knowledge should be managed (Snowden, 2002). Snowden (2002) postulated that knowledge is contextual and thus requires a heuristic, as opposed to a prescriptive, management approach. To illustrate his point, Snowden (2002) used the following three heuristics:

Knowledge can only be volunteered; it cannot be conscripted. . . . We can always know more than we can tell, and we will always tell more than we can write down. . . . We only know what we know when we need to know it. (p. 102)

Similarly, the results of a case study of a call center suggested that knowledge management is the dynamic process of turning an unreflective practice into a reflective one by elucidating the rules guiding the activities of the practice, by helping give a particular shape to collective understandings, and by facilitating the emergence of heuristic knowledge. (Tsoukas & Vladimirou, 2001, p. 973)

The results of this research study affirmed that knowledge management included staff codifying their knowledge as well as developing perceptual skills—transformation of learning into explicit and tacit knowledge.

Furthermore, this conceptualization of knowledge management reinforced the notion that the evolution of knowledge management does not require abandoning techno-centric conceptions of knowledge management, but rather to be conscious of their inherent limitations and the need for knowledge management to be tied to learning (Snowden, 2002; Tsoukas & Vladimirou, 2001). In other words, the management of the heuristic aspects of institutional knowledge will require increased institutional responsiveness to social relations and less emphasis on the digitization of information (Tsoukas & Vladimirou, 2001).

The review of the literature, highlighted above, revealed a variety of scholarly suppositions about various models associated with the future of next generation knowledge management (Janz & Prasarnphanich, 2003; Jasimuddin et al., 2012, McAdam & McGreedy, 1999; McElroy, 2000; Saint-Onge, 2005; Snowden, 2002; Steyn, 2004; Thomas et al., 2001; Tsoukas & Vladimirou, 2001). At a minimum, next-generation perspectives will likely encompass the four basic facets of knowledge management: (a) knowledge creation—new knowledge development; (b) knowledge storage and retrieval—codification and storage within institutional memory, such as documents, database repositories, and employee experiences; (c) knowledge transfer—sharing among people; and (d) knowledge application—integration of knowledge to institutional processes or initiatives (Alavi & Leidner, 2001, McElroy, 2003; Snowden, 2002; Tsoukas & Vladimirou, 2001).

In addition, each of the scholarly propositions of next-generation knowledge management reviewed included sentiments that first-generation knowledge management was primarily a techno-centric approach designed to supply or distribute knowledge (Alavi & Leidner, 2001; Grant & Grant, 2008; McAdam & McGreedy, 1999; McElroy, 2000; Snowden, 2002; Tuomi, 2002). For example, McElroy (2003) and Snowden (2002) summarized first-generation knowledge management as being based upon the assumption that knowledge exists and it just needs to be captured and stored for reuse.

In general, there is consensus that knowledge management is in the process of transitioning as scholars have proposed a variety of alternatives for first-generation knowledge management. However, at this juncture, scholars have not reached a general consensus about what the next-generation of knowledge management is or will be. Next-generation knowledge management is based upon the supposition that knowledge is the product of the human social

system (McElroy, 2003; Snowden, 2002). As such, several scholars speculate that next-generation knowledge management will be characterized as a set of social processes requiring a holistic approach facilitated by the use of technology (McElroy, 2000, 2003; Sallis & Jones, 2002; Snowden, 2002). These social processes are oriented towards meeting institutional demands for new knowledge and geared toward learning and innovation (McElroy, 2003; Sallis & Jones, 2002). The implications associated with the shift from first-generation to next-generation knowledge management are the increased awareness of and focus on knowledge sharing and creation.

Framed as a social process, knowledge sharing and knowledge creation occur through story-telling (Brown & Duguid, 2000; Sallis & Jones, 2002). Within this social framework, knowledge sharing has been defined as a process in which units, teams, and individuals are influenced by the experiences of others (Argote & Ingram, 2000; Søndergaard et al., 2007; Sveiby, 1997). As such, the process of sharing knowledge can be unwieldy (Davenport, 1997). This awkwardness can arise because knowledge involves difficult to articulate tacit knowledge that resides in the human mind (Nonaka & Takeuchi, 1995). Additionally, complications may also emerge because knowledge is embedded in tools, tasks, and employee sub-networks (Argote, Ingram, Levine & Moreland, 2000).

Several scholars have characterized knowledge sharing as a flow of knowledge between a minimum of two individuals each with a different role—provider and seeker (Alavi & Leidner, 2001; Jasimuddin et al., 2012; O'Dell & Grayson, 1999). In addition to the knowledge flow concept, knowledge sharing incorporates concepts of learning—how acquired knowledge from one situation and developed by one individual or group may be applicable, or not, to another situation (Singley & Anderson, 1989).

Knowledge creation has been conceptualized as the interplay between the flow of knowledge, as defined above, and the tacit dimensions of knowledge (Nonaka & Takeuchi, 1995). This notion is reaffirmed by the meaning making process whereby meaning is created by the receiver as opposed to the provider, especially when sharing tacit knowledge (Sveiby, 1997). Similarly, another perspective characterized knowledge creation as occurring “within the process of accumulating, synthesizing, and sense making of information” (Petrides & Guiney, 2002, p. 1713). McElroy (2003) stressed that the social process of knowledge creation, also referred to as innovation, consists of the conception of ideas by people that are substantiated by communities and adopted into institutional practices.

Several scholars have portrayed knowledge sharing and creation as occurring through a social process and suggested that institutions should place an increased emphasis on fostering a knowledge-friendly institutional culture (Davenport & Prusak, 1998; De Long & Fahey, 2000; O’Dell & Grayson, 1999). One quantitative empirical study, examined the potential of knowledge management as a mediating role in the relationship between institutional culture, structure, strategy, and effectiveness (Zheng et al., 2010). The study findings supported the conclusion that institutional culture

has a greater contribution to knowledge management than other factors examined. This may be due to the fact that culture determines the basic beliefs, values, and norms regarding the why and how of knowledge generation, sharing, and utilization in an organization. . . . [This] brings to attention the importance of focusing on creating a knowledge-friendly environment. (Zheng et al., 2010, p. 769)

Another quantitative research study examined the relationship between institutional culture and knowledge management processes during an ERP (Enterprise Resource Planning)

implementation (Palanisamy, 2007). The results of the study provided evidence that knowledge management processes are influenced by institutional culture. The data analysis illustrated that knowledge transfer occurred through pre-arranged and impromptu meetings. The researchers concluded that tacit knowledge was most often transferred during formal and informal meetings rather than through spontaneous social communication. Therefore, intentionality to share knowledge is indicated through the use of work related meetings—informal and formal. Due to the need of the institution to capture and share knowledge across hierarchical boundaries, this empirical study demonstrated the necessity of a knowledge-friendly culture as a catalyst for a successful ERP implementation.

Institutional culture is built on the relationships among people and their experiences, beliefs, and values (Schein, 1992). Gareth Morgan defined institutional culture as people sharing a common language and perspectives which enable them to interpret situations in similar fashions (Pugh & Hickson, 1997). Furthermore, Schein (1992) argued that institutions develop basic assumptions as coping mechanisms used to adapt to external environmental issues and to deal with problems of internal integration.

### **Fostering a Knowledge-Friendly Institutional Culture**

As institutional leaders in business and education sectors begin to make the paradigm shift from late industrial era to knowledge era thinking, these pioneering leaders will begin to question fundamental beliefs and existing ways of working which can present additional difficult challenges to overcome (Eckel & Kezar, 2003; Fullan, 2001; Savage, 1996; Senge, 1990). One such challenge is changing cultural norms and instilling a climate that encourages people to share their knowledge. For instance, existing institutional hierarchical and physical infrastructures have inadvertently erected information silos (Davenport & Prusak, 1998). With higher education

faculty, these silos relate to institutional structures delineated by academic disciplines (Norris et al., 2003). In general, knowledge within postsecondary educational settings often “resides in archipelagos of individual knowledge clusters, unavailable for systematic sharing” (Norris et al., 2003, p. 16).

To instill a climate that encourages knowledge sharing and creation, institutional leaders will most likely discover the need to develop methods and institute significant change initiatives designed to create permeable boundaries (Savage, 1996; Tobin, 1998). These permeable boundaries may include a combination of physical or virtual spaces where people from diverse areas can come together to exchange ideas, share knowledge and skills, and, conversely, learn from others. In the higher education sector, institutional leaders face an additional challenge.

Too often academicians are unreflective

about the nature of knowledge outside of their immediate domains of interest. . . . It is the challenge of institutional leadership to get faculty and staff to reflect on the nature of knowledge and on how knowledge can be understood and shared in different ways.

(Norris et al., 2003, p. 16)

Therefore, in addition to the creation of permeable boundaries, leaders in the knowledge era will discover a need to adjust their institutional processes and philosophies (Savage, 1996).

Under the institutional philosophy of the industrial era, knowledge sharing is an unnatural behavior because individuals believe that what they know makes them valuable, which in turn, encourages these individuals to hoard knowledge rather than to share it freely with others (Bennet, 2001; De Long and Fahey, 2000). This notion of proprietorship of knowledge also exists in the educational sector. Although academic collaboration has always been present, the systematic sharing of course content and related materials has been inadequate (Norris et al.,



2003). In the context of knowledge sharing, the authors inquired about systematic sharing of e-learning. In response, the faculty questioned why they would want to share course related materials (Norris et al., 2003). On the other hand, the knowledge era management philosophy embraces peer-to-peer networking focused on learning, distributed or mutual power, and collective, cooperative, and collaborative action (Allee, 1999; Bolman & Deal, 2008; Savage, 1996). Senge, Kleiner, Roberts, Ross, and Smith (1994) posited that a “new type of management practitioner is emerging today, a person who is willing to combine his or her own personal learning with broader collective action in an organization” (p. xi).

Overcoming institutional barriers to knowledge sharing will require institutional leaders to alter a number of human resource practices as well as to establish and support collaborative initiatives (Davenport & Prusak, 1998; Leo et al., 2001; Sallis & Jones, 2002). Institutional leaders could help to mold cultural assumptions through the use of “culture-embedding mechanisms” (Schein, 1992, p. 231). Culture-embedding mechanisms can be expressed as the necessity of leaders to pay attention to human resource practices such as recruitment and hiring, resource allocations, and the criteria used for promotions, bonuses, and raises. A review of the literature on knowledge sharing concluded that resources must be allocated and policies must be instituted in such a way that they foster a sharing culture that will boost knowledge sharing activities (Becheikh et al., 2010).

Fostering sustainable and successful social processes to increase knowledge sharing, knowledge creation, and innovation will require institutional interventions and investments (McElroy, 2003). Scholars have emphasized that knowledge sharing social interactions are contingent on who is involved and what their goals are (Cohen & Prusak, 2001; Preece, 2003).

To this end, fostering these successful social processes also requires attention to nurturing social capital.

In a professional community, the hallmarks of social capital are “trust, reciprocity, information flows, and emerging norms” (Gamoran, Gunter, & Williams, 2005, p. 113). Further, social capital is dependent on not only trust but also empathy (Preece, 2003). Social capital emphasizes that who you know is just as important as what you know (Lin, 2001). Scholars have also noted that when communities have an abundance of social capital, members will volunteer time and energy to help each other for the common good (Cohen & Prusak, 2001; Gamoran et al., 2005; Preece, 2003).

Increasingly, a community of practice model has been identified as a means to expand knowledge generation and dissemination within institutional settings (Becheikh et al., 2010; McElroy, 2003; Norris et al., 2003; Petrides & Nodine, 2003). Moreover, these communities have been characterized as the “source and shape of social capital, . . . the primary manifestation of cooperative connections between people” (Cohen & Prusak, 2001, p. 55). Community of practice members quickly learn that when they share their knowledge, they will in turn benefit from the contributions of others (Wenger et al., 2002).

### **Communities of Practice**

Brown and Duguid (2000) contended that “understanding learning, work, and the movement of knowledge” (p. 143) required a grasp of networks of practice and communities of practice. Networks of practice are connections among people within similar practice areas (Brown & Duguid, 2000). Conversely, a community of practice is a subsection of a larger network of practice (Brown & Duguid, 2000). Communities of practice are composed of people who know each other and communicate, negotiate, and coordinate together on various work

issues (Lave & Wenger, 1991). In addition, researchers have shown communities of practice to be influential in the creation and sharing of knowledge (Chetty & Mearns, 2012).

A case study of MultiChoice, a South African subscription television service, was conducted to explore the institutional knowledge base prior to implementation of communities of practice and again 3-years later (Chetty & Mearns, 2012). The research methodology was based on experiential learning cycles—reflect, plan, act, observe, and reflect. The case study findings indicated that communities of practice were influential in developing a collective approach to goal achievement through knowledge sharing (Chetty & Mearns, 2012).

Although the concept of communities of practice only recently emerged within the knowledge management literature, the concept has been around for centuries. For example, during the Middle Ages, thespians, craftsmen, and merchants participated in communities of practice referred to as guilds (Wenger & Snyder, 2000). A current example can be found within the K-12 educational sector in the form of professional learning communities (Hilliard, 2012; Hord, 1997).

Within the K-12 arena, a professional learning community is viewed as the combination of “a leadership team and faculty members as a collaborative group who seek to improve the learning experiences for students through a shared vision” (Hilliard, 2012, p. 71). Hilliard (2012) elaborated further by outlining characteristics of a professional learning community as (a) tackling specific issues for institutional improvement, (b) sharing what has been learned with others, and (c) continuous improvement attitudes. Similarly, Hord (1997) focused on attributes of successful professional learning communities such as shared leadership between positional leaders and others, shared vision, collective learning, peer feedback, and physical settings and human aptitude.

In many respects, professional learning communities and communities of practice share a similar functional purpose—knowledge sharing, learning, and change (Fullan, 2001; Hilliard, 2012; Hord, 1997; Wenger et al., 2002; Wenger & Snyder, 2000). Within the sphere of knowledge management, communities of practice have been defined as “groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis” (Wenger et al., 2002, p. 4).

Initially, Lave and Wenger (1991) raised awareness of communities of practice within the literature by introducing the concept as a descriptor of their proposed theory of situated learning—learning through practice and participation. Their research study focused on how learning through apprenticeships worked. Communities of practice enabled people to establish “social networks along which knowledge about the practice can both travel rapidly and be assimilated readily” (Brown and Duguid, 2000, p. 141). Within the context of apprenticeships, the purpose of communities of practice is to reproduce existing knowledge (Brown & Duguid, 2000; Cox, 2005; Lave & Wenger, 1991).

As community of practice theory continued to evolve, a stronger emphasis was placed upon the concepts of participation and reification (Wenger, 1998). Wenger (1998) posited that the duality of participation and reification increased the power of social interactions and strengthened the progression of meaning making. Participation was characterized as the social process in which knowledge is shared and created through sense-making. And, reification was expressed as

the process of giving form to our experience by producing objects that congeal this experience into ‘thingness’ . . . . Any community of practice produces abstractions, tools,

symbols, stories, terms, and concepts that reify something of that practice into a congealed form. (Wenger, 1998, p. 58)

Community of practice representations of practice-based experiences can be analogous to the concept of reification of (a) student learning through the issuance of diplomas, (b) sobriety through the use of coins that represent time of sobriety, and (c) sacred promises made between a bride and groom with the use of wedding rings.

In the 21<sup>st</sup> century's knowledge-based environment, communities of practice have been characterized as the organizational frontier (Wenger & Snyder, 2000). Through the augmentation of existing institutional structures, such as cross-functional project teams, communities of practice promise to “galvanize knowledge sharing, learning, and change” (Wenger & Snyder, 2000, p. 139). As depicted in Figure 3, the foundation of a community of practice is based on three prominent characteristics or elements: (a) domain, (b) community, and (c) practice (Wenger, 2004; Wenger et al., 2002).

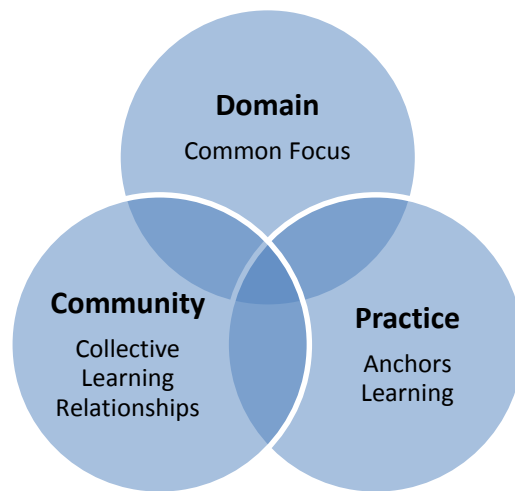
Communities of practice establish an identity by focusing on a domain of knowledge in need of exploration and development (Wenger, 2004). Members of a community of practice gather, physically or virtually, to willingly share what they know with others and to learn from others in order to broaden and deepen the existing knowledge base of the domain (Chetty & Mearns, 2012). The characteristic of community refers to the social platform where learning relationships are built (Wenger, 2004). These learning relationships are symbiotic and based upon mutual respect, trust, civility, and collegiality (Chetty & Mearns, 2012; Wenger et al., 2002). The practice characteristic refers to practitioner involvement (Wenger, 2004).

Additionally, the practice has been described as the process of sharing ideas, stories, tools, and

information through the use of commonly understood language and protocols (Wenger et al., 2002).

Figure 3

### Community of Practice Characteristics



The combination of the three elements has been summarized as “[d]omain provides a common focus; community builds relationships that enable collective learning; and practice anchors the learning in what people do” (Wenger, 2004, p. 3). When the three elements work in concert, a community of practice can successfully foster and facilitate knowledge sharing and creation (Wenger et al., 2002). A community of practice often forms in the absence of institutional oversight because people with similar interests have a tendency to interact with each other to problem-solve (McElroy, 2003). In other instances, many institutions have begun to foster the creation of and support for communities of practice (Wenger et al., 2002). For instance, an exploration of the use of communities of practice, using an interpretive case study methodology, was conducted at National Computer Systems Pte LTd. The researchers concluded that community of practice knowledge sharing and knowledge generation efficacy

was dependent upon factors such as institutional recognition, management, and participant impact (Ramchand & Pan, 2012).

Other scholars argue that there are inherent limits to a community of practice approach to knowledge management (Harvey et al., 2013; Roberts, 2006). One argument highlights Lave and Wenger's (1991) lack of attention to the distribution of power with regard to negotiated meaning (Roberts, 2006). An entity with a decentralized and distributed power network is more likely to have "diversity in the voices actively shaping and negotiating meaning" (Roberts, 2006, p. 628), whereas a centralized, hierarchical power distribution may stifle member contributions.

Another argument emphasized the incompatibility between a formal, hierarchical structure and the unstructured nature of a community of practice (Harvey et al., 2013). A longitudinal study of a prominent Canadian labor union focused on the inception of a community of practice through its termination 16 months later. The authors of the study observed that instead of holding dynamic and interactive gatherings during which errors could be discussed, hot topics debated, new ideas presented, and reality questioned, the CoP members turned these meetings into information deliveries. . . . A bureaucratic environment can hamper the PDD [purposeful design and development] of this knowledge sharing means. (Harvey et al., 2013, p. 34)

Although many scholars have begun to address the benefits and limitations with respect to the use of communities of practice as a knowledge management strategy, there is a dearth of empirical evidence as to its application (Ramchand & Pan, 2012).

For example, although the focus of Roberts' (2006) scholarship was on the limitations associated with the use of communities of practice, she did raise awareness to their evolutionary nature within the realm of knowledge management. She concluded that a

communities of practice approach does provide us with a means to explore the transfer of tacit knowledge in a social context. . . . It provides a valuable alternative to the knowledge management tools focused on the codification of knowledge. (p. 637)

This social contextual position was affirmed by the findings from the longitudinal Canadian labor union study.

It is the extent of trust and reciprocity in relationships that create a social context where individuals who share a concern or a set of problems intuitively learn from one another how they can proactively establish a viable course of action around their practice as well as how they can reactively adapt to unfolding circumstances. (Harvey et al., 2013, p. 35)

In addition to the institutional social context of knowledge sharing, there is also a need to understand the synergistic value among specific institutions and communities of practice that span institutional boundaries (Roberts, 2006).

Inter-organizational communities of practice are models for knowledge sharing and knowledge creation across institutional boundaries (Huang, Newell, & Galliers, 2002; Soekijad, Huis in 't Veld, & Enserink, 2004; Wenger et al., 2002). In many respects, inter-organizational communities of practice are aligned with situated learning achieved through social interaction among the community members (Lave & Wenger, 1991). An inter-organizational community of practice that spans institutional boundaries laterally typically includes people with similar roles or responsibilities in different, but similar, institutions. Additionally, members share an interest in a common domain. For example, one empirical case study focused on learning in a community of practice that spanned institutional boundaries where a variety of institutions, including competitors, collaborated (Soekijad et al., 2004). The community of practice studied



included 25 people from 12 institutions, real estate developers, and researchers. The domain of the community of practice was the sustainable, multiuse of space in the Netherlands.

An empirical study, employing a qualitative embedded case study design, explored the effects of intra-organizational and inter-organizational boundaries on service improvement implementations within and across primary healthcare settings. The researchers concluded that “knowledge sharing and collaboration may remain problematic and unequally developed across different areas due to historical factors, competition and strong identity boundaries between individual general practices, which may present an obstacle to the spread of best practice” (Kislov et al., 2012, p. 12). Thus, permeable boundaries that support social relationships can facilitate knowledge sharing.

Another empirical study, using a quantitative survey approach, explored the effectiveness of communities of practice within the decentralized institutional structure of State Farm Insurance Company (Hemmasi & Csanda, 2009). The primary focus of the study was on participant perceptions of the social and psychological environment of that community. The researchers concluded that role-based communities of practice can add value through enhanced employee job efficacy related to shared ideas, knowledge, and best practices. To gain a better understanding of the extent of participant engagement in knowledge sharing, the researchers indicated a need for additional research into the sources that encouraged motivation to share (Hemmasi & Csanda, 2009).

From a theoretical perspective, these empirical studies provided validation that communities of practice are functional and useful. More specifically, each study indicated the presence of (a) knowledge sharing and creation; (b) situated, collective learning; and (c) practice focus (Hemmasi & Csanda, 2009; Kislov et al., 2012).

From a leadership perspective, the findings from each study affirmed that although communities of practice often emerge spontaneously and are self-governing, institutional development initiatives could be advantageous (Hemmasi & Csanda, 2009; Kislov et al., 2012). In other words, cultivation of the communities of practice could result in rewarding knowledge sharing and knowledge creation activities (Wenger et al., 2002). Additionally, an approach that honors the notions of spontaneity with respect to the creation of communities of practice may increase the potential for permeable boundaries between competing institutions and result in improved knowledge sharing (Hemmasi & Csanda, 2009; Kislov et al., 2012).

Furthermore, an examination of the review of research studies discussed above indicates a need for research efforts to explore knowledge sharing, as well as to refine the community of practice concept as a beneficial knowledge management process (Hemmasi & Csanda, 2009; Kislov et al., 2012). Although, the use of communities of practice as knowledge management tools has appeared in the literature, there is a dearth of empirical study on its application as a component of knowledge management (Hemmasi & Csanda, 2009; Ramchand & Pan, 2012).

### **Conceptual Framework**

The review of the literature identified a number of pertinent concepts with regard to the U.S. transition in the economic source of wealth from the late industrial era to the early knowledge era. Of fundamental importance, is the concept that institutional longevity and sustainability are predicated on embracing knowledge as a key institutional intangible asset. In response to the need to embrace knowledge as a key institutional asset, institutions have initiated knowledge management strategies (Alavi & Leidner, 2001; Saint-Onge, 2005; Sallis & Jones, 2002; Savage, 1996; Senge, 2006). These knowledge management strategies are envisioned by

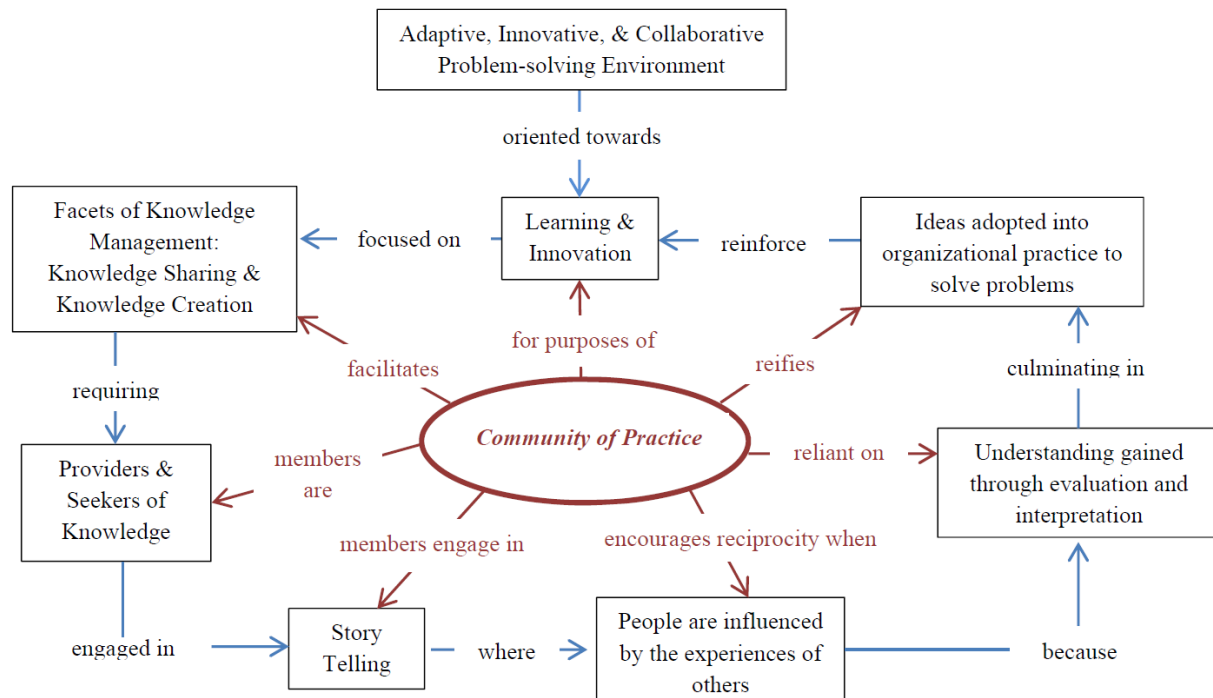
many scholars as a business practice which requires a knowledge-centered learning culture (Janz & Prasarnphanich, 2003; Jasimuddin et al., 2012; Saint-Onge, 2005; Thomas et al., 2001).

As U.S. institutions of public higher education likewise continue to transition to an early knowledge era paradigm (see Figure 2, on page 17), accountability mandates based in the industrial paradigm impose challenges to the transition. As depicted in Figure 2, these challenges are manifested by the expansion of top-down, bureaucratic, accountability mandates imposed by legislative bodies exercising governance through an industrial era mindset (Leveille, 2005; Uhl-Bien et al., 2007). For instance, as institutional leaders are attempting to address accountability mandates, they discover that the application of existing expertise or ways of doing things are no longer effective (Heifetz et al., 2009). The mandates are articulated in the style of industrial era thinking, but addressing them actually requires leaders to rethink what they do and how they do it (Brown & Duguid, 2000; Senge, 1990; Uhl-Bien et al., 2007). For this reason, public postsecondary institutions are beginning to embrace early knowledge era strategies in order to address late industrial era mandates while also meeting the demands of the 21<sup>st</sup> century.

Embracing early knowledge era strategies will require public institutions of higher education to foster adaptive, innovative, and collaborative problem-solving environments. The context of an adaptive, innovative, and collaborative problem-solving environment will serve as the conceptual framework for this research study. The conceptual framework, depicted by Figure 4 below, illustrates that an adaptive, innovative, and collaborative problem-solving environment has a learning orientation with a focus on knowledge sharing and knowledge creation.

Figure 4

## Conceptual Framework



The literature reviewed identified a perspective of knowledge management associated with the early knowledge era. This perspective of knowledge management is dependent on individuals cast in the roles of knowledge providers and knowledge seekers engaged in sharing their knowledge through the use of story-telling (Alavi & Leidner, 2001; Brown & Duguid, 2000; Jasimuddin et al., 2012; O'Dell & Grayson, 1999; Sallis & Jones, 2002; von Krogh, 1998, 2002). As people engage in knowledge sharing activities, they will begin to reshape their schemas or mental models based upon their personal experiences and the shared experiences of others (Petrides & Guiney, 2002; Senge, 2006; Singley & Anderson, 1989; Sveiby, 1997). As a result, new understandings about existing challenges will be formed as people evaluate and interpret what they have learned from others.

The culmination of these activities will be the formation of new ideas and solutions to existing problems. Integration of these new problem-solving approaches into existing institutional practices will reinforce the necessity of fostering an adaptive, innovative, and collaborative problem-solving environment oriented towards learning and innovations.

As noted earlier and depicted in Figure 4, the purpose of a community of practice is to broaden and deepen the existing knowledge base of its domain through learning and innovation (Chetty & Mearns, 2012; Wenger, 2004, Wenger et al., 2002). As such, a community of practice serves as a social platform where seekers and providers of knowledge engage in story-telling (Brown & Duguid, 2000; Sallis & Jones, 2002; von Krogh, 2002). This story-telling process facilitates knowledge sharing and knowledge development (Becheikh et al., 2010; McElroy, 2003; Norris et al., 2003; Petrides & Nodine, 2003). Moreover, story-telling is an influencing process for a community of practice because the members are influenced by the experiences of others (Argote & Ingram, 2000; Søndergaard et al., 2007; Sveiby, 1997) which encourages reciprocity with regard to knowledge sharing (Bock et al., 2005). Thus, a community of practice is reliant on member understanding through evaluation and interpretation (Sallis & Jones, 2002). Further, a community of practice reify ideas as members adopt them to solve problems individually and collectively (Wenger, 2004).

### **Summary**

The literature review was initiated with the premise that the economic source of wealth is transitioning from capital to knowledge. The review focused first on four major paradigm shifts in the sources of economic wealth within the U.S.—land, labor, capital, and knowledge. The current shift of the economic source of wealth is associated with a transition from the late industrial era to an early knowledge era that is affecting institutions within both the business and

education arenas. For this reason, public institutions of higher education are increasingly focused on knowledge organized through the use of peer-to-peer networking. To provide a foundation for understanding the underpinnings of a knowledge-based institutional environment, the review then examined the nature of human knowledge. From there, the review focused on a discussion of the concepts and evolution of knowledge management with a focus on the processes of knowledge sharing and knowledge creation. The review then continued with a focus on the need for fostering a knowledge-friendly institutional culture as a means for instilling a climate that would encourage knowledge sharing and creation. The review concluded with a discussion of the concepts of communities of practice and their use as a knowledge management strategy. In addition to acknowledging the literature from the business sector, public post-secondary perspectives were noted throughout the review.

The qualitative research approach for this study of knowledge sharing within a community of practice is outlined in Chapter 3. The focus of the chapter is on the methodology used to explore how participants of a community of practice within higher education described their knowledge sharing and knowledge development experiences within the context of accountability and continuous improvement. Chapter 4 addresses both the data analysis approaches used in the present study and the analysis of the data collected. Chapter 5 provides a summary of the present study, a discussion of the conclusions from the study, implications for educational leadership, and recommendations for future research.

## **CHAPTER 3**

### **RESEARCH METHODOLOGY**

Chapter 1 provided the introduction to this research study on knowledge development through knowledge sharing interactions. A review of the relevant literature and the conceptual framework for the study were presented in Chapter 2.

The research question explored in this study was: How do members of a community of practice describe their knowledge sharing and knowledge development experiences within the context of accountability and continuous improvement? Knowledge sharing is central for knowledge development to occur. Therefore, the focus of the study included members of a community of practice where such knowledge sharing interactions occurred. Further, because context matters in any knowledge sharing experiences, the study design also included accountability and continuous improvement within a State University System. To address the research question, a qualitative research approach for exploring knowledge sharing and knowledge creation within a community of practice was used.

#### **Research Design**

The emphasis of the present study was on eliciting and understanding tacit cognitive knowledge in the form of perceptions of members within a community of practice. These perceptions are based upon experiences and mental impressions—feelings or images retained as a consequence of experience (Alavi & Leidner, 2001; Nonaka & Takeuchi, 1995; Senge, 2006). Thus, the research question necessitated a focus on participants describing their perceptions of the complexities of knowledge development through knowledge sharing experiences.

One type of qualitative research approach endeavors to gain understanding from the articulated experiences of participants. The perceptions of individuals are grounded in day-to-

day life experiences, and, without the ability to converse with the participants, it would be very difficult to gain an understanding of how they see the world (Eisner, 1998; Marshall & Rossman, 2011; Patton, 2002). In other words, the researcher and the participants need to be able to engage in a conversation during which participants share their experiences through descriptive prose and the researcher has an opportunity to interpret the conversation and seek clarification.

Qualitative interviewing is a research approach that can enable the researcher to gain insight into what others are thinking through the gathering of their stories (Patton, 2002). In this sense, the interview is not designed as a means to obtain answers to questions (Seidman, 1991). Rather, the research interview is an approach to gain understanding of a complex phenomenon from the participant perspective (Kvale, 1996).

One approach to gain an understanding of participant perspectives is through the use of in-depth, semi-structured interviewing (Patton, 2002; Seidman, 1991). The in-depth nature of the interview approach encourages each participant to share personal experiences (Patton, 2002) and thus, helps garner participant voice (Eisner, 1998). The semi-structured nature of the interview approach provides the researcher with a question guide for the interview (Patton, 2002). The guide can help the researcher “build a conversation within a particular subject area, to word questions spontaneously, and to establish a conversational style” (Patton, 2002, p. 343). As the interview unfolds, the guide can provide the researcher with additional benefits. For instance, the researcher can more easily adapt questions and their sequence as well as probe for further details during the interview. Both of these tactics can assist the researcher to spontaneously steer the interview in a particular direction in an attempt discover what is “in and on someone else’s mind” (Patton, 2002, p. 341). Furthermore, the guide can be useful for



increasing the likelihood of exploring the same line of questioning with each participant (Hatch, 2002).

As noted in Chapter 1, the purpose of this research study was to explore how members of a community of practice perceive their knowledge development and knowledge sharing experiences. Because individual perceptions are unobservable, the researcher needs to ask participants questions about their experiences and perceptions (Patton, 2002). An in-depth, semi-structured interview approach allows for the development of an understanding regarding how people make meaning of their experiences.

Additionally, because the researcher is an intimate part of the data collection process, the researcher is a tool in the process. In view of these characteristics, a qualitative research design using an in-depth, semi-structured interview approach is appropriate to capture participant perceptions (Eisner, 1998; Kvale, 1996; Marshall & Rossman, 2011; Patton, 2002; Seidman, 1991).

### **Site and Participant Selection**

Site and participant selection is a purposeful process (Marshall & Rossman, 2011). Successful site selection is predicated on the researcher's attentiveness to evaluating potential settings for appropriate characteristics. Site selection also attends to the purpose for the research study. As explained in Chapter 1, the purpose of this study was to explore how members of a community of practice within a state university system perceived their knowledge development and knowledge sharing experiences within the context of accountability and continuous improvement.

Although communities of practice may exist within institutional boundaries, they can also exist within systems that operate across institutions. The review of the literature discussed in

Chapter 2 revealed that communities of practice can be models for knowledge sharing and knowledge creation across institutional boundaries (Wenger et al., 2002). Communities of practice can enable institutions to counteract information silos through the creation of permeable boundaries (Wenger et al., 2002). To that end, the community of practice can help to instill an adaptive, innovative, and collaborative problem-solving environment.

When selecting a research site, the context may have an influence on what participants share. In this study, the Florida State University System (SUS) was the selected site. As the demand for a college education continues to grow while state fiscal resources continue to shrink, state legislative bodies are increasingly holding public postsecondary institutions accountable regarding state priorities such as access and timely degree completion (Zusman, 2005). Accordingly, the Florida SUS Board of Governors has adopted ten accountability measures, two of which focus on timely degree completion (Florida Board of Governors, 2015).

My own professional experience also facilitated site and participant selection. During my professional experience at one institution within the Florida SUS, I have had numerous opportunities over the course of two decades to observe interactions among the SUS Registrars. Reflecting on these observed interactions, I have recognized that the focus of their conversations demonstrates that each registrar has a similar role and set of responsibilities in different, but similar, institutions—a characteristic of a community of practice. Furthermore, these conversations have provided evidence of inter-institutional permeable boundaries and an environment of adaptive, innovative, and collaborative problem-solving.

The primary responsibilities of university registrars are the maintenance of student academic records and registration (Lanier, 2006). In addition, registrars interact with institutional leaders and academic program faculty in the development, implementation, and

enforcement of academic policies, regulations, and, increasingly, legislative accountability initiatives. Therefore, the present study proposed exploring knowledge sharing and knowledge development perceptions of the Florida SUS Registrars within the context of accountability and continuous improvement.

The shared set of registrar responsibilities is the foundation of the Florida SUS Registrars identity because it is based upon their focus on a specific domain of knowledge—one of three characteristics of a community of practice. The second characteristic of a community of practice is community. The community is viewed as a social platform where learning relationships are built (Wenger, 2004). Community members interact to willingly share what they know with others and to learn from others in order to broaden and deepen the existing knowledge base of the domain (Chetty & Mearns, 2012). The Florida SUS Registrars meet this definition of community because they interact in an environment of mutual respect, civility, and collegiality. The last characteristic is the concept of practice where practitioners engage in a process of sharing ideas, stories, tools, and information through the use of commonly understood language and protocols (Wenger et al., 2002). The SUS Registrars are a group of practitioners who share a common language and who willingly share experiences and insights on issues related to their domain of focus. Furthermore, the practice enables the group of registrars to anchor their learning at their home institutions.

The Florida SUS Registrars have a long history of interacting with each other in order to share best practices and to explore implementation options when complying with legislative mandates. These Florida SUS Registrar interactions appear to foster an adaptive and innovative problem-solving environment which has the potential to increase institutional capacity and capability to combine and apply knowledge (Brown & Duguid, 2000; Senge, 1990). Given that

the Florida SUS Registrars meet the definition of a community of practice, the selection of the SUS Registrars is appropriate for exploring knowledge development and knowledge sharing perceptions within the context of accountability and continuous improvement.

The Florida SUS is comprised of 12 institutions. Only 11 of the 12 SUS Registrars were invited to participate in the present study due to the departure of the 12<sup>th</sup> just as data collection began. All of those invited agreed to participate in the research study. The first Registrar interview occurred in mid-May of 2015 and the 11<sup>th</sup> interview took place on August 1, 2015.

### **Informed Consent and Confidentiality**

Every researcher has an ethical responsibility to protect participants from harm in a research study (Marshall & Rossman, 2011). Informed consent is a mechanism used to communicate the many facets of the research study that are relevant to participants to make a decision to participate (Kvale, 1996). An informed consent document typically includes the purpose of the study, the voluntary nature of participation, and the risks and benefits associated with participation in the research study (Kvale, 1996). Furthermore, the informed consent document will alert potential participants as to the actions that will be taken to assure confidentiality with respect to the data obtained (Kvale, 1996; Patton, 2002). In accordance with the University of North Florida's research protocols related to research projects involving human subjects, the research design for the present study was examined by the University of North Florida Institutional Review Board and declared exempt (see Appendix A).

The digitized data from each interview have been stored on a password protected secure server at the University of North Florida (UNF). To lessen the risk of a breach of security, the interview recordings were uploaded to the secure server either from a direct connection to the UNF secure server or through the use of a Virtual Private Network (VPN) connection. The VPN

is a secure method of connecting to UNF's network by way of the Internet. Once a digitized recording was uploaded to the UNF secure server it was erased from the two recording devices used during the interviews.

Each of the 11 SUS Registrars was sent an invitation letter (see Appendix B) for invitation letter). The purpose of this letter was to invite the recipient to participate in the research study. The invitation included a brief overview of my background at the University of North Florida and a description of the research study. The invitation also informed each Registrar that participation was voluntary and that withdrawal from the study could occur at any time. In addition, the participants were informed that they could refuse to respond or could retract responses to any questions at any time during the data collection process. All 11 Registrars accepted the invitation to participate in the research study. Prior to participating in the interview session, the participant was asked to sign an informed consent form (see Appendix C).

### **Researcher as Tool**

One characteristic of qualitative research is that the researcher is the primary instrument for collecting and analyzing the data (Patton, 2002). As a result, it is imperative that the researcher possess a level of connoisseurship in relation to the research study to be conducted (Eisner, 1998). The central element of connoisseurship is the concept of knowing and having knowledge.

The selection of the topic of research was influenced and informed by my 18 years of experience as an academic administrator. My entire career has been at one public postsecondary institution within a state university system. To use Eisner's (1998) words, I am keenly aware of the "qualities of voice, manner, movement, and visual environment" (p. 68) within the realm of academic administration. In addition to my own personal experiences, I have gained valuable

knowledge by observing and interacting with other experienced administrators. My connoisseurship of knowledge development and knowledge sharing within a community of practice has been augmented by a review of the pertinent literature, which also informed data collection and data analysis.

In my capacity as an academic administrator, I have served as a project leader for several complex, multi-year institutional projects such as the implementation of the Banner<sup>®</sup> Student Enterprise Resource Planning (ERP) System. As a result, I have had the opportunity to observe and participate in a project team that evolved into a self-regulating and self-governing community of practice. This opportunity enabled me to experience knowledge sharing and knowledge development as the project team leader and, after ERP implementation, as a participant of a community of practice.

The role of the researcher's connoisseurship also involves responsibilities. The main requirement is transparency regarding the design of the study. Further, to assure transparency during data collection and data analysis the researcher must acknowledge her subjectivity (Peshkin, 1988, 2000). To this end, the researcher must be explicit with regard to personal contributions in order to "clarify, rather than obscure, research design and findings" (Howe & Eisenhart, 1990, p. 7).

### **Data Collection**

A qualitative interview approach allowed for the exploration of participant perceptions. Perceptions are unobservable because they reside in the minds of people. Therefore, to find out how people think or how they perceive their experiences, the researcher must ask them (Patton, 2002). Indeed, the intent of the qualitative interview is to gain an understanding of the participants' points of view (Kvale, 1996; Yin, 2014).

In an effort to put the interviewee at ease, the interview was designed as a guided conversation (Yin, 2014). An informal conversational interview can be problematic in data collection because of the likelihood of each participant being presented with different questions (Patton, 2002). Therefore, in order to provide a framework for a purposeful conversation, a semi-structured, in-depth interview approach consisting of open-ended questions was used. The semi-structured, in-depth interview approach provided me with a common focus and suggested questions while also providing an opportunity to rearrange the sequence of and to adjust the wording of questions as the interview unfolded (Kvale, 1996). The open-ended nature of the questions allowed participants to share their perspectives without constraints (Patton, 2002). Open-ended questions also enabled me to ask follow-up questions in order to gain clarification of what was said and to learn more details about an experience being discussed (Seidman, 1991).

Using the review of the literature and the conceptual framework as a foundation, a set of semi-structured, open-ended questions focused on increasing knowledge in the field (see Appendix D). Specifically, the questions were designed to build upon the call in the research to gain an understanding of the use of a community of practice as a knowledge management strategy (Ramchand & Pan, 2012; Roberts, 2006; Ropes, 2009). To that end, this research study explored participant perceptions with respect to knowledge sharing and knowledge development.

Four background questions (Patton, 2002) focused on length of time in the position, how the participant viewed their role and responsibilities, and their level of involvement with accountability and continuous improvement initiatives. Because the participants serve as the University Registrar at their respective institutions, the first four questions contributed to understanding how participants execute that role at their institutions.

A set of descriptive questions followed. Descriptive questions served to build rapport and to solicit the voice of the participants (Eisner, 1998; Seidman, 1991). To use Spradley's (1979) words, a descriptive approach "is like offering informants a frame and canvas and asking them to paint a word-picture of their experience" (p. 85). Further, the use of descriptive questions encouraged the participants to share their experiences without imposing limitations while also maintaining my neutrality (Patton, 2002; Spradley, 1979).

Seven descriptive questions were designed to elicit participant perspectives about the SUS registrars group. As noted above, participant selection was predicated on the basis that the group of SUS registrars formed a community of practice. The literature review revealed that scholars defined a community of practice as consisting of 3 prominent characteristics (see Figure 3, on page 35)—domain, community, and practice (Chetty & Mearns, 2012, Wenger et al., 2002). To gain an understanding of how the SUS registrars viewed their group, the seven descriptive questions were focused on the 3 characteristics. Specifically, two questions were focused on the domain characteristic, two questions focused on the community characteristic, and three questions focused on the practice characteristic. The remaining questions were designed to gain an understanding of how the participants viewed knowledge sharing and knowledge development within a community of practice (Becheikh et al., 2010; McElroy, 2003; Norris et al., 2003; Petrides & Nodine, 2003).

Understanding everything someone says is difficult. Therefore, as necessary, I asked the participant to clarify responses and to provide more depth to the conversation (Seidman, 1991). My connoisseurship was helpful in the formulation of these follow-up questions (Kvale, 1996). Further, these types of questions let the participant know that I was interested in what the he or she was telling me (Kvale, 1996).



One-on-one interviews were conducted with the Florida SUS Registrars in a mutually agreed upon location. Each interview was scheduled at the convenience of the participant. In an effort to assure the rigor required for credibility, each interview was recorded on two devices for transcription and participant review. Upon completion of each interview session, I spent 10 to 15 minutes making notes regarding the session. These notes aided me during the transcription of the recordings (Kvale, 1996; Patton, 2002). In order to gain a better perspective, I transcribed each interview. By taking this approach I had an opportunity to relive the interview without the interference of thinking about how to frame the next question or whether to probe further. In other words, during the interview I was not completely focused on the overall interview due to engagement in the process. The transcription process not only captured the words spoken, it also captured the paralinguistic and nonverbal aspects of the interview. The combination of these details contributed to later data analysis (Patton, 2002; Seidman, 1991).

Interview transcription is a complex process because it involves the translation of oral language to written language, each with its own set of rules (Kvale, 1996). In an attempt to assure accuracy of the interview transcripts, the transcribed interviews were shared with each participant. During this stage of the data collection, the participant had an opportunity to clarify responses to questions or to request the removal of responses to questions.

In addition to the interview protocol used to collect data, I attended the Admission and Registrars (A&R) meeting conducted at the 7<sup>th</sup> Annual Florida Higher Education Summit. The A&R meeting, open to all attendees of the Higher Education Summit, was the only occasion in which the SUS Registrars met face-to-face. My attendance was overt, and the participants, who knew about my research study, were informed of my presence (Patton, 2002).

The timing of the Summit was opportunistic because it took place while I was in the midst of data collection. I encountered two significant benefits by attending the Summit. First, I had an opportunity to recruit participants. Secondly, my observations contributed to my ability to contextualize the data collection process.

As illustrated by the signature that appears on an institutional academic transcript, postsecondary institutions have one individual who serves in the capacity of the University Registrar. As such, the person serving in this role can be characterized as elite because of their specific expertise of managing academic records (Burnham, Lutz, Grant, & Layton-Henry, 2008; Lanier, 2006). Interviewing elites can be problematic because “gaining their trust and building rapport” (Mikecz, 2012, p. 482) can be difficult.

Prior to the Summit, I had received confirmation of participation from 5 of the invited Registrars. While attending the Summit, I continued to recruit participants. Each day, I found an occasion to introduce myself to uncommitted Registrars. During these brief conversations, I was able to discuss my research project. This action enabled me to begin to gain the trust of and build a rapport with those whom I had not yet met. After the Summit, I followed up with these Registrars and each agreed to participate in the research study.

The second benefit was the opportunity to observe the A&R meeting. During the meeting, I made extensive notes about the physical setting, the social environment, and the topics under discussion. Because only 2 interviews had been conducted prior to the Summit, these notes helped me in the contextualization of the data collection processes that occurred after the Summit.

## Data Analysis

Qualitative research is an interpretive process where “interpretation is an act of imagination and logic. It entails perceiving importance, order, and form in what one is learning that relates to the argument, story, narrative that is continually undergoing creation” (Peshkin, 2000, p. 8). As each interview was completed, the transcription process started. During the transcription process, I endeavored to listen to the audio recordings with an open mind in order to honor the perspectives and knowledge of the participants. The act of maintaining an open mind was a conscious effort because the data were a collection of the interactions between me and the participants. In other words, I remained cognizant of my subjectivity (Peshkin, 1988, 2000).

In addition to being an interpretive process, qualitative research also requires the researcher to undergo a sense-making process (Patton, 2002). This sense-making process requires the researcher to “construct a framework for communicating the essence of what the data reveal” (Patton, 2002, p. 432). To begin the sense-making process, I read all of the transcripts in a single sitting and made notes to inform subsequent systematic interpretation. Initially, the research data were reviewed using a typological approach (Hatch, 2002). The typological analysis provided a foundation for the interpretive dimension of the data analysis (Hatch, 2002).

In addition to the sense-making and interpretive characteristics, qualitative research is also depicted as descriptive. Many scholars have indicated that description and interpretation are intertwined (Kvale, 1996; Patton, 2002). Thus, the use of rich descriptions can provide others with the means for constructing their own meaning and understanding of the phenomenon under

study (Patton, 2002). Chapter 4 provides a detailed account of the data analysis process used for this research study.

### **Summary**

This research study sought to gain an understanding of how members of a community of practice perceived knowledge development and knowledge sharing. A primary focus of the study was on the SUS Registrars knowledge sharing and knowledge development experiences within the context of accountability and continuous improvement. The Florida SUS Board of Governors' recent adoption of ten accountability measures made Florida an ideal setting. In addition, the Florida SUS registrars have a lengthy history of interaction with regard to sharing best practices and implementation strategies associated with legislative mandates. Furthermore, the SUS Registrars met the three characteristics associated with a community of practice—domain, community, and practice. Therefore, the SUS Registrars were suitable participants for this research study.

Because an individual's perceptions are grounded in life experiences, a qualitative semi-structured, in-depth interview approach was selected for this research study. The interview protocol enabled the participants to describe their knowledge sharing and knowledge development experiences. Finally, the iterative process of data analysis was informed by the review of the relevant literature, researcher connoisseurship, and the four dimensions of educational criticism. Chapter 4 addresses both the data analysis approaches used in the present study and the analysis of the data collected. Chapter 5 provides a summary of the present study, a discussion of the conclusions from the study, implications for educational leadership, and recommendations for future research.

## **CHAPTER 4**

### **DATA ANALYSIS**

Chapter 1 provided the introduction to this research study to describe how members of a community of practice perceived and understood their experiences. To this end, the research study focused on knowledge development through knowledge sharing interactions. Thus, the purpose of this study was to explore how members of a community of practice within a state university system perceived their knowledge sharing and subsequent knowledge development experiences within the context of accountability and continuous improvement. The participants' voices contributed to understanding the experience of a community of practice as a knowledge management strategy.

Chapter 2 highlighted the literature relevant to the study's focus and described a conceptual framework that guided the study design. As noted in Chapter 3, because this research study focused on how people perceived their experiences, data collection relied on the use of participant interviews (Patton, 2002). An interview guide served as a means to help frame each "conversation with a purpose" (Dexter, 1970, p. 136, as cited in Merriam, 1998, p. 71). The focus of Chapter 4 is on the analysis of the data collected for the present study.

#### **Data Analysis Process**

Qualitative research is an interpretive process where "interpretation is an act of imagination and logic. It entails perceiving importance, order, and form in what one is learning that relates to the argument, story, narrative that is continually undergoing creation" (Peshkin, 2000, p. 8). As an interpretive process, qualitative data analysis requires the researcher to undergo a sense-making process (Patton, 2002). This sense-making process enables the researcher to "construct a framework for communicating the essence of what the data reveal"

(Patton, 2002, p. 432). The sense-making process can be significantly enhanced by the researcher's connoisseurship in relation to the research study to be conducted (Eisner, 1998). That is, the background of the researcher within a higher education setting with accountability and continuous improvement responsibilities contributed to the interpretive process used in the present study.

### **Researcher Connoisseurship**

The selection of the research topic was influenced and informed by my professional knowledge of and experience with knowledge sharing and knowledge development as a member of a community of practice. As discussed in Chapter 3, my professional experience has included the opportunity to observe and participate with the members of a project team that evolved into a self-regulating and self-governing community of practice. This opportunity enabled me to experience knowledge sharing and knowledge development as the project team leader and, after project implementation, as a participant of a community of practice. My involvement with this community of practice for the last decade—a decade of increased accountability and continuous improvement—has provided me with an awareness and understanding of member interactions with regard to knowledge sharing and knowledge development within such contexts.

Although data analysis is a process whereby qualitative data are transformed into an interpretation of participants' experiences, my connoisseurship enabled me to initiate the sense-making process during data collection. For instance, the in-depth, semi-structured nature of the interview, in conjunction with my connoisseurship, allowed me to easily adapt questions and to redirect and probe within the interview setting to learn what a participant was thinking (Eisner, 1998; Patton, 2002). In other words, the nature of the interview helped me to conduct each session as a conversation that provided opportunities to initiate the sense-making process

(Patton, 2002). In an effort to be sure I understood what a participant was conveying, I found myself rephrasing, in my own words, the expressed thoughts of participants. Thus, I had begun analyzing the data while in the midst of collecting it (Kvale, 1996).

As illustrated above, my professional experience as a participant in a community of practice provided me with an “awareness of the qualities of voice, manner, movement, and visual environment” and an understanding of the “complexities, nuances, and subtleties” (Eisner, 1998, p. 68) associated with knowledge sharing interactions and subsequent knowledge development that take place within a community of practice. In other words, my professional community of practice experience at a public state university contributed to my connoisseurship which, in turn, enhanced my sense-making capacity for the present study. In addition to my professional connoisseurship, the review of the salient literature enhanced my sense-making capacity.

### **Literature Review and Conceptual Framework**

As noted above, my connoisseurship was influential in the selection of the research topic. This influence also helped to shape the conduct of the literature review. The review of the literature revealed that the concept of knowledge management was evolving from a technocentric approach to a more holistic human social system approach (McElroy, 2003; Snowden, 2002). As such, institutions are increasingly attentive to fostering sustainable and successful social processes to increase knowledge sharing and creation (McElroy, 2003).

The holistic human social system approach of knowledge management is dependent on individuals cast in the roles of knowledge providers and knowledge seekers engaged in sharing their knowledge through the use of story-telling (Alavi & Leidner, 2001; Brown & Duguid, 2000; Jasimuddin et al., 2012; O’Dell & Grayson, 1999; Sallis & Jones, 2002; von Krogh, 2002). As people engage in knowledge sharing activities, they will begin to reshape their schemas or

mental models based upon their personal experiences and the shared experiences of others (Petrides & Guiney, 2002; Senge, 2006; Singley & Anderson, 1989; Sveiby, 1997). As a result, new understandings about existing challenges will be formed as people evaluate and interpret what they have learned from and with others.

Using my professional connoisseurship in conjunction with the review of the literature, a conceptual framework (see Figure 4, on page 41) was constructed to guide the present study. The conceptual framework depicted an adaptive, innovative, and collaborative problem-solving environment with a focus on knowledge sharing and knowledge development. One such approach outlined in the review of the literature was a community of practice model. The community of practice model was identified as an approach that is attentive to the social processes that contribute to knowledge sharing and knowledge development (Becheikh et al., 2010; McElroy, 2003; Norris et al., 2003; Petrides & Nodine, 2003).

My connoisseurship, review of the literature, and the conceptual framework contributed to the development of the interview guide that was then used to frame participant conversations. The questions in the interview guide were designed to prompt participants to describe their knowledge sharing and knowledge development experiences within a community of practice.

### **Data Analysis Strategies**

The sense-making process for the present study involved my professional connoisseurship informed by both the review of the literature related to the topic of study and two strategies for data analysis— educational criticism (Eisner, 1998) and typological analysis (Hatch, 2002). This combination provided structure to the data analysis process and thereby enabled me to describe the perceptions and experiences of the participants with “empathic neutrality” (Patton, 2002, p. 49). In the words of Patton (2002), empathic neutrality is the



“middle ground between becoming too involved, which can cloud judgment, and remaining too distant, which can reduce understanding” (p. 49). Empathic neutrality is necessary because of my role as the primary instrument for collecting and analyzing the research data and my professional experience as a member of a community of practice within a higher education setting.

**Educational Criticism.** According to Eisner (1998), connoisseurship is a personal and “quiet act of appreciation” and “criticism provides connoisseurship with a public face” (p. 85). Comprised of four dimensions—description, interpretation, evaluation, and thematic—educational criticism requires connoisseurship in order to gain an understanding of qualitative data (Eisner, 1998), in this case, the participants’ perceptions shared during the interview sessions. Moreover, educational criticism requires the connoisseur to harness her skills as a critic in order to provide rich descriptions, interpretations, evaluations, and themes with regard to the data being analyzed so that the reader might find heuristic utility (Eisner, 1998).

The four dimensions of educational criticism were used to organize the process of data analysis. As such, the first stage of the process was the transformation of data into rich descriptions. The descriptive processes were facilitated through typological analysis (Hatch, 2002).

**Typological Analysis Approach.** As outlined in the first three chapters, the present research study was descriptive in nature (Marshall & Rossman, 2011). Specifically, the research objective or purpose for the study was to describe participant perceptions with regard to knowledge sharing and knowledge development experiences within a community of practice. For this reason, data were organized by three specific typologies: (a) community of practice, (b) knowledge sharing, and (c) knowledge development. The generation of these typologies can be

attributed to “theory, common sense, and/or research objectives” (Hatch, 2002, p. 152). Given the review of the literature, my connoisseurship, and the research objective for the present study, the use of the particular typologies identified was expected.

The use of a typological analysis approach requires the researcher to allocate time to the transformation of “data in descriptive and analytic ways” (Hatch, 2002, p. 181). Typological analysis can help the researcher to organize the data in such a way as to ease the sense-making process of a vast amount of data. For instance, this process can help the researcher to organize the volume of data which will help to facilitate the identification of significant patterns. In other words, the data transformation process can enable the researcher to more easily differentiate “trivia from significance” (Patton, 2002, p. 432). This transformation process also intertwines description with the initial stages of sense-making (Hatch, 2002; Kvale, 1996; Patton, 2002). As scholars have noted, the transformation of data into rich descriptions can be used as a foundation for supplementary data analysis (Hatch, 2002; Patton, 2002).

### **Analysis of the Data**

For the present study, the data analysis process included data transcription and educational criticism. The description dimension of educational criticism was augmented with the use of typological analysis.

#### **Data Transcription Process**

Data transcription is not merely a mechanistic process but becomes the first stage of data analysis. Indeed, data analysis began in earnest with the transcription of the digitized interviews. During the transcription process, I endeavored to listen to the audio recordings with an open mind in order to honor the perspectives and knowledge of the participants. The act of maintaining an open mind was a conscious effort because the data were a collection of the

interactions between me and the participants. In other words, I remained cognizant of my subjectivity (Peshkin, 1988, 2000) as I engaged intimately with what the participants said.

Recognition and acknowledgement of subjectivity are essential because, as the instrument for data collection and data analysis, my subjectivity was unavoidable (Patton, 2002; Peshkin, 1988). Despite the fact that my subjectivity was unavoidable, the process of transforming oral conversations into written text enabled me to lessen its influence. Specifically, the transcription process provided me with an opportunity to relive the data collection experience from a different vantage point. Instead of focusing on how to frame the next question or whether to probe further, I was able to reflect upon the review of the literature as I transcribed the data.

In an effort to assure that the transcriptions accurately reflected the perceptions of participant experiences, each participant was provided with an opportunity to review the transcription of our conversation. Participants were invited to clarify, remove, edit, or to expand upon their responses to the interview questions. Several weeks were allotted to this transcription review process. Of the 11 participants, 6 indicated that their perceptions were reflected accurately. In order to clarify their responses, 4 participants provided minor adjustments; the remaining participant did not respond to my invitation to review the transcript.

As a means to preserve the confidentiality of each participant, personally identifiable information was not replaced with selected pseudonyms until after the transcription review process was complete. This action was deemed necessary because during each interview participants often referred to other participants by name or institution. Therefore, if participants read the final study report they would be less likely to identify what their colleagues said during individual interviews. Each participant was randomly assigned a pseudonym upon conclusion of the transcription review process. To assure a random selection process, the participant name was

selected from one bag and the pseudonym was selected from another bag. The selection of U.S. Navy Signal Flags as pseudonyms is attributable to a childhood experience with my father when he served as a NROTC faculty member at Vanderbilt University.

### **The Process of Educational Criticism**

The overall data analysis strategy, educational criticism, requires the educational connoisseur to take on the role of critic. The critic “transform[s] the qualities” of the phenomena under study into a “public form that illuminates, interprets, and appraises the qualities that have been experienced” (Eisner, 1998, p. 86). In other words, the goal of the critic is to educate the reader.

The structure of educational criticism is portrayed as a multidimensional approach for analyzing participant data (Eisner, 1998). The multidimensional approach includes 4 stages—description, interpretation, evaluation, and thematics. In the present study, participant perceptions of their experiences with knowledge sharing and knowledge development within a community of practice were described through their voices and their stories, so that the reader could engage vicariously with what they shared as a heuristic endeavor (Eisner, 1998).

The focus of the description dimension was to describe the “what” (Eisner, 1998, p. 98) of the phenomena under study, whereas Eisner’s interpretation dimension focused on the “why or how” (Eisner, 1998, p. 98). To this end, as the connoisseur and critic, I endeavored to place description into meaningful context in order to account for what was described. The third dimension, evaluation, focused on appraising participant experiences in the form of value judgments (Eisner, 1998, p. 100). The final dimension, thematics, focused on the identification of “recurring messages that pervade” (Eisner, 1998, p. 104) knowledge sharing and knowledge

development within a community of practice. For the present study, these lessons may guide others in the use of a community of practice as a knowledge management strategy.

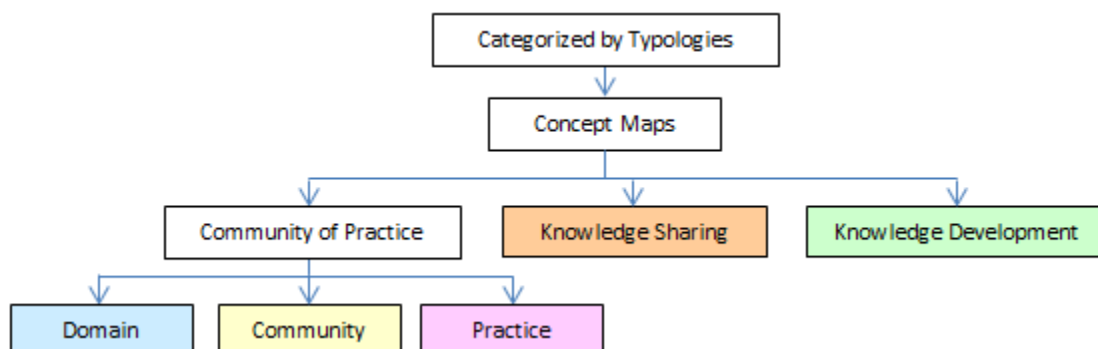
### The Process of Typological Analysis

To begin the typological analysis process, the data were categorized by typology, based on topics from the review of the literature: (a) community of practice, (b) knowledge sharing, and (c) knowledge development. At this point in the process, the focus was not to make sense of the data. Rather, the focus was on describing what the participants said (Hatch, 2002).

To accomplish the task of categorizing the data into typologies, each transcript was read while focusing on a single typology, that is, each transcript was read at least 3 times at this stage of the analysis process. The rationale for focusing on a single typology was to allow the researcher time to reflect on whether the data being read were related to the typology under review (Hatch, 2002). Further, an excerpt for one typology may relate to another typology. Thus, reviewing a single typology at a time minimized the possibility of overlooking how specific interview excerpts could relate to more than one typology.

Figure 5

#### Organization of Data



For ease of identification, the data associated with each typology were color-coded. As Figure 5 illustrates, the knowledge sharing and knowledge development typologies were each

assigned a color. The community of practice typology was described in the literature as being comprised of three distinct characteristics. Therefore, as depicted in Figure 5, the community of practice typology was assigned three colors, one for each characteristic. To preserve the context associated with the categorized data (Hatch, 2002; Patton, 2002), the interview data related to the typology under review were color-coded and left in the interview transcription to facilitate later analysis, if necessary.

After the typology related data were color-coded, each transcript was read again while focusing on a single typology. However, this time, instead of reading the entire transcript, the focus was limited to the relevant color-coded excerpts. While reading a participant's excerpts, main ideas were identified (Hatch, 2002).

Categorization by typology enabled me to reduce the volume of raw data into a more manageable dataset to be used for data analysis purposes (Hatch, 2002). To further facilitate the data analysis process, a summary sheet for each typology was created. Each typology summary sheet was organized by participant and included a brief statement of the excerpt, the transcript location of the excerpt, and when appropriate, a notation as to whether a suitable evidentiary quote might be available.

Upon completion of the typology summary sheets, the focus of the analysis shifted to the sense-making process. As a means to facilitate the identification of patterns, relationships, and themes within typologies, a concept map representing each typology summary sheet was created. The typology concept map provided me with a visual representation of the data which contributed to my ability to identify anticipated and unanticipated patterns, relationships, and themes within each typology (Hatch, 2002; Patton, 2002).

After an initial draft of a typology concept map was completed, the color-coded excerpts within each transcript were re-read. During this stage of the data analysis, I made notes about my thoughts and insights with regard to the patterns, relationships, and themes within the typology. These notes helped me to connect the typological data to the related literature and my connoisseurship. In addition, these notes were used to identify potential gaps in the review of the literature relevant to the typology.

### **Presentation of Data Analysis**

The data analysis processes and strategies outlined above have served to make central the voices of the participants with regard to their perceptions and experiences with knowledge development through knowledge sharing interactions within a community of practice. As previously discussed, the data were organized by three specific typologies—community of practice, knowledge sharing, and knowledge development. These typologies are not mutually exclusive. Consequently, there are occasions where data excerpts are applicable to more than one typology.

The data analysis will be presented using Eisner's (1998) multidimensional structure of educational criticism—description, interpretation, evaluation, and thematics. As noted in the previous section, typological concept maps were developed as visual representations of the data (see Appendix E). In addition, these concept maps also facilitate the interpretation of the descriptions because they depict patterns and relationships among the data.

The description and interpretation of each typology are presented first. To help the reader to conceptualize the participants' perceptions, excerpts from the participant interviews were used to illustrate the descriptions. The final dimensions of educational criticism—

evaluation and thematics—are presented following description and interpretation. In these stages, typologies are combined to provide a holistic analysis of the data.

### **Community of Practice Typology**

As noted in the review of the literature, the foundation of a community of practice (see Figure 3, on page 35) is based upon three prominent characteristics—domain, community, and practice (Wenger, 2004; Wenger et al., 2002). As previously discussed in the section regarding the process of typological analysis, the community of practice typology was subdivided into three parts corresponding to three distinct characteristics of a community of practice in order to categorize the data. Therefore, description and interpretation of each characteristic in the typology is presented separately.

#### **Characteristic of Domain**

The first characteristic of a community of practice is domain. Domain refers to the common focus or common ground which the participants share (Wenger, 2004). More specifically, this common focus inspires interaction among the participants which “guides their learning, and gives meaning to their actions” in their professional practice (Wenger et al., 2002, p. 28). In other words, the domain serves to affirm the purpose and the value of the community of practice.

As noted earlier, each participant in the present study served as the university registrar at his or her postsecondary institution within a State University System (SUS). During the interviews, participants expressed views regarding their role and responsibilities as a university registrar. Participants viewed themselves as: guardians of the academic records; stewards of the student information systems and associated processes; administrators and arbitrators of academic policies, rules, regulations, and statutes; and facilitators of student degree attainment.



As noted in the literature, the primary responsibilities of university registrars are the protection, maintenance, and preservation of the integrity of student academic records and registration processes (Lanier, 2006; Pace, 2011). The guardianship of academic records was identified first and foremost by all the participants. For instance, Kilo stated, “my main function, of course, is to protect the integrity and privacy of the data for the student record . . . from matriculation through graduation.” This notion of guardianship was applicable to day-to-day operations as well as to the archival of institutional memory. Foxtrot emphasized this historical importance by pointing out that “without the Registrar’s Office and without the records we maintain, no faculty ever taught a course and no student ever took a course and got a grade. It’s just that simple.” Thus, the participants emphasized their responsibility for ensuring that archived academic records contain term-based information about courses offered, faculty assigned as instructors of record, and students enrolled.

The protection of student privacy and the data integrity of the student academic record are achieved through the appropriate governance of the student information systems and associated processes. As physical student records have been replaced with digitized records maintained in Enterprise Resource Planning (ERP) systems, the “registrar now spends more time managing business systems and less time managing records” (Lanier, 2006, p. 18). Although the manner in which academic records are maintained and stored has evolved, the primary function of the registrar has remained constant—to support the instructional mission of the institution (Lanier, 1995).

Maintaining data integrity of digitized student academic records requires an understanding of the “data elements and the relationships among them” (Pace, 2011, p. 7). To this end, the registrars serve as stewards of these systems and processes. Zulu described this

stewardship role as “ensur[ing] that people have effective access to their records . . . [and] to ensure that registration systems are working appropriately, the grading systems are working appropriately, and that academic history is maintained effectively.” Effective operation of the various data systems associated with student records such as registration, scheduling, and academic history is dependent upon understanding the degree to which one system is mutually dependent on other systems. To illustrate this point, Echo stated:

because of my knowledge of the database and . . . all the rules and processes that we run across campus, I can eyeball something and say “if you make that change, it’s not only going to affect the Registrar’s Office but that office, that office, and that other persons report.”

As such, her comprehension of how the data for which she is responsible relates to other processes and student information systems contributes to maintaining the data integrity of the student academic record.

In addition to technological issues associated with the guardianship of academic records and the stewardship of the data systems and processes, registrars are increasingly faced with academic policy issues. Registrars interact with institutional leaders and academic program faculty in the development, implementation, and enforcement of academic policies, regulations, and, increasingly, legislative accountability initiatives. To this end, “the registrar should be the go-to administrator” when the faculty governance requires guidance (Pace, 2011, p. 6).

Participants described the administration and arbitration of academic policies, rules, regulations, and statutes, henceforth referred to as academic policies, as central to their role. Moreover, participants asserted that their involvement with the administration and arbitration of academic policies was not relegated to a gatekeeper role. For example, Zulu indicated he

facilitated student progress. “[To] efforts to enforce these policies and to grant exceptions and to shape experiences, I bring an attitude that this student is encountering a barrier on their way to a goal. My role . . . is to help facilitate that pursuit.” Yankee described her perspective of academic policy administration by noting that the administration of academic policies required registrars to serve as “arbitrators,” which at times results in the establishment of new interpretations of academic policy:

I don’t set policy, but a lot of times through the enforcement of policy and through that arbitration of—you as a student are now running afoul of this—how do we interpret this in this case because the policy doesn’t directly speak to this. You are establishing a precedent that then becomes a procedure that then ultimately can become a policy that everybody in the University says it’s always been this way but no one can ever point to it in writing.

Likewise, Sierra emphasized the need for a more holistic approach to policy administration. She characterized her role as more consultative in nature with a focus on

how could this policy be interpreted? . . . Is this a bigger issue that we need to deal with? . . . What do we want to do, why do we want to do it, and if we do it that way, what are the unintended consequences, what are the implications all over? Like looking at every other office, how is everybody going to be impacted by this?

The perspectives shared by Sierra, Yankee, and Zulu illustrate how policy administration by registrars is more than a mere gatekeeper role. Participants discussed the need to approach policy implementation from a holistic, complex perspective—a perspective focused on assisting students to achieve academic pursuits.

While discussing policy administration and implementation, participants included stories of how they engage with students from matriculation through graduation. For instance, Zulu explained that although some people perceive us as “gatekeepers or the cops on the beat, . . . that is a small subset of our role as we help students to achieve, [pause] earn a degree.” Tango expanded upon this perception by describing the registrar as being in a “unique position. . . . We basically touch the student at different points throughout their [student] life cycle.” The perspectives shared by all the participants emphasized that the SUS registrars work with students from the point of matriculation through graduation.

At one institution, facilitating graduation includes the administration of a graduation grant initiative out of its Registrar’s Office. As Whiskey explained, this support program is geared toward “students that are close to graduation but are facing financial hurdles that are preventing them from registering for that last term.” Although, not a large grant, it does enable students to complete their degrees. And, the registrar at another institution helps academic chairs understand how course scheduling decisions can impact a student’s pursuit of a degree. As Lima noted, department chairs “think they’re offering enough sections to satisfy their major, but they aren’t really realizing how that affects the other 2000 majors that also need that same course.” Although, the facilitation of student degree attainment is viewed in a variety of ways, registrars perceived the importance of their role in helping students to achieve an educational pursuit.

Equally important, is the linkage of policy implementation with the student information systems and associated processes. Governing bodies continue to increase accountability mandates and continuous improvement initiatives in the form of academic policies. As such, institutions are becoming increasingly reliant on the registrars because “they know the data and interpret them accurately” (Pace, 2011, p. 7). This notion was affirmed by the participants. For

example, from Zulu's perspective, the "Registrar's Office integrates with all of, not merely [pause] with our technical systems but with constituents across the board in enrollment services and academic affairs." Thus, Zulu contended that the registrar "can help facilitate the effective implementation of [these] reform projects." Lima affirmed this notion by noting that "so much of the data related to accountability [pause] comes from processes that are done by the Registrar's Office. Those processes have to be good, they have to be clean, and they have to be user friendly." For these reasons, registrars are continually monitoring and adjusting the student information systems and associated processes as the interpretation of academic policies evolve.

### **Characteristic of Community**

The second characteristic of a community of practice is the community. The community refers to the social platform where learning relationships are built (Wenger, 2004). These learning relationships are dependent on a community built upon collaborative relationships based on mutual respect, trust, civility, and collegiality (Chetty & Mearns, 2012; Wenger et al., 2002). To this end, community members interact to share willingly what they know with others and to learn from others in order to broaden and deepen the existing knowledge base of the domain (Chetty & Mearns, 2012).

Delta characterized the community as based upon "a culture of sharing and caring." Similarly, Lima described the community as collegial and inspired by an "innate desire to make other people better. . . . It's kind of the humanistic thing, . . . supporting coworkers." Likewise, Yankee described her experiences with member collegiality by stressing that the registrars "are very open to dialogue and discussion and exchange. I've never had one not be forthcoming, or interested in helping out, or willing to share any information they have." These participant

comments revealed a strong desire to engage in collaborative learning relationships among their peers.

The collaborative learning relationships participants described necessitated the existence of a nonjudgmental environment conducive to fostering the exchange of ideas and best practices. Tango illustrated this point when he shared, “What I like about the registrars is no one says, ‘Hey, what you’re doing is totally messed up,’ because they all know that different institutions have different needs.” Likewise, Kilo described the community as “such a great group of people. I don’t think there would ever be backlash or somebody emailing back something sarcastic.” Delta explained that the “process [of sharing knowledge] is nonjudgmental. . . . I don’t have a sense of somebody just being mad at me for saying what I’ve said or whether my view or my practice that I share is wrong. . . . Nobody’s judging you.” Sierra shared a similar sentiment as she described the environment as a place where people are not “ridiculed or belittled for not knowing something 100%. . . . I don’t think you’d ever feel foolish for asking anything.” Beyond being nonjudgmental, participants described an atmosphere that encouraged members to expose their vulnerability.

Participant vulnerability was exhibited in a number of ways. For instance, some participants described it as admitting ignorance by posing questions. Sierra described the interactions within the community as “extremely cordial and open. . . . I never feel like, ‘Oh, I shouldn’t ask that.’” This openness was further illustrated by Whiskey when he described the group interactions as

group therapy. . . . Internally, on our own campuses, we’re scratching our heads saying “How in the heck are we supposed to do this?” Then, when you pose the question to the

group, it's reassuring to know that each [registrar] was going through the same kind of anxiety.

Other participants described vulnerability as sharing failures with the community. For instance, Tango noted that exchanging ideas with the community included providing “insights on what not to do at times. . . . We're very forthcoming. . . . Everyone shares their faults.” Similarly, Echo's perspective was that “we answer [questions] honestly and share everything. We'll even share that we're having trouble in that area, too.” Kilo elaborated further when she indicated that she would respond with “OK, here's how we handled it; but, this is probably how we could have handled it better looking back.” Equally important to asking questions and sharing failures, vulnerability was characterized as testing assumptions and alternative approaches.

The collegial atmosphere described above illustrates that the registrars have built a relationship based upon trust, collegiality, and civility. This collegial, nonjudgmental environment encourages the SUS registrars to discuss opposing viewpoints when testing assumptions and exploring alternative approaches. For example, Zulu acknowledged that he would disagree with members of the community. He described these disagreements as “an opportunity to learn” and as a means to “question my assumptions or to see the strengths and weaknesses of my own point of view.” The participant perspectives shared thus far have demonstrated that the SUS registrars are at ease with reaching out and seeking guidance from their peers.

A community with a nonjudgmental environment also facilitates collective learning. For instance, Whiskey noted, “in the course of a conversation, whether they're providing advice or getting advice, they're going to learn something from that conversation.” Tango described this

process as helping to reframe perspectives on various issues. To illustrate his point, Tango shared the following example:

Let's say I would ask a question, "How are you guys doing X, Y, and Z?" And, the response is "Hey, we're doing it this way." And, you get a consensus for how everyone is doing it. And, then I respond, "Hey, we're doing it this way," and everyone says "Really! I've never thought about it that way! How are you doing it this way versus the way we're doing it?" [pause] And so, you just get a different mindset of the way things are being done.

Reframing perspectives is contingent upon the willingness of individuals to share their personal perspectives and the inclination to listen to these perspectives with an open mind. Bravo expressed this notion as "we're so concentrated in our own little worlds that we very often forget to look outside the window. . . . Sharing information . . . opens your eyes or forces you to see things in a different way." The participant perspectives revealed a set of established norms that have instilled a climate that encourages the SUS registrars to exchange ideas, share knowledge and skills, and thereby learn from others.

### **Characteristic of Practice**

Practice, the third characteristic of a community of practice, refers to members using a commonly understood language and protocols to share ideas, stories, tools, and information (Wenger et al., 2002). That is, the members of a community of practice are individuals who "accumulate practical knowledge in their domain, which makes a difference in their ability to act individually and collectively" (Wenger, 2004, p. 3). Thus, practice, supported by peers in the field, serves as a discussion forum focused on a set of common issues.



Although the registrars are from institutions within the same SUS, the institutions have different demographics, missions, and ERP systems. To counteract these differences, Lima noted that the registrars “work to find those common experiences and find commonalities rather than the differences.” Likewise, Bravo noted that “even though we’re different, basically the information is the same. . . . I mean, a student is a student, registration is registration. [It] doesn’t really matter if we do it contract wise, block registration, or individual courses.” Further, the participants indicated that there are more commonalities than differences within the realm of the registrar. She elaborated further by explaining that registrar issues are not “something that you can Google; [rather], answers come from the professionals in the field.” As such, the participants expressed a willingness to share experiences and insights on issues related to the implementation of changes to academic policies, processes, and student information systems. Thus, although it may be “a lonely world” (Bravo) for registrars at their home institutions, connecting with other registrars provides opportunities for support and even learning.

As Whisky noted, the registrars in the SUS are bonded together because they all must comply with the “same statutes, regulations, and Board rules.” This bond also contributes to what Yankee referred to as a “shared set of prerequisite knowledge.” For this reason, the registrars have developed a common language. The shared set of prerequisite knowledge can facilitate a degree of uniformity to aid in the facilitation of student degree attainment. Zulu highlighted how uniformity of academic processes and procedures can aid transfer students’ achieve academic pursuits. By having “our [academic] calendars and some data systems in alignment [e.g., electronic transmission of transcripts], we can better serve students by eliminating barriers of transfer.” Moreover, Yankee noted that the common language and shared set of prerequisite knowledge facilitates discussion because a common “set of assumptions have

already informed a conversation before I ever ask a question.” Whiskey elaborated further by explaining that there is a common

set of challenges that we all face. . . . We’re facing operational challenges, logistical challenges, and they’re affecting all of us. And, so it brings us together to find out what works for everybody, and we try to borrow each other’s ideas.

Because conversations are based upon a common language, informed by a set of assumptions and focused on common issues, the discussion forum can contribute to a collective problem-solving environment.

Delta described this collective problem-solving environment as a discussion forum in which members “exchange best practices and lessons learned.” From Delta’s perspective, these exchanges inform her of “what worked for the other registrar, and, therefore, I would like to emulate them.” Likewise, Kilo acknowledged that she is receptive to alternative approaches; “if there’s another way to do it and it’s better, then we should do it the better way.” In addition, Delta explained that “the lessons learned inform me of unpleasant surprises that I want to avoid.” For the participants, therefore, a collective problem-solving environment can generate an increased awareness and can broaden perspectives about issues.

Sierra noted that discussions among the SUS registrars have increased her knowledge about state-wide issues which enabled her to “prepare for what might come our way or what needs to change.” Tango provided a similar example when he shared a story about Yankee alerting everyone regarding a recent visit with the state auditor. According to Tango, Yankee reached out to the group and let them know that “if we had done X, Y, and Z, we probably might have come out in better shape; so, guys just be on the lookout that they’re looking for X, Y, and Z.” These participant perspectives illustrate that a collective problem-solving environment can

assist the SUS registrars in expanding their understanding of issues. In addition, this environment can serve as an early warning system by raising awareness about pending situations.

The practice was also characterized as a forum for the development of specific knowledge that can contribute to uniform approaches for handling common issues. For instance, Zulu explained “we don’t want to have our interpretation of residency policy being radically different from one another because we want to be able to treat people fairly, no matter what institution they attend.” Likewise, Lima indicated that the SUS benefited when policies were applied in a similar fashion. “We all like to say we’re autonomous and we do things our way; but, I think, it’s good for the system when we do talk and are more similar than not in how we are applying the rules.” The perspectives shared by the participants illustrated that they do strive to find commonalities.

Participants also emphasized that differences in demographics, mission, and ERP systems can hinder their ability to approach situations in a uniform manner. However, these differences were viewed, not as problematic, but as a diversity of perspectives which can result in the improvement of practices. As Foxtrot explained, “there’s nothing wrong with the way they’re doing it . . . [and] there’s nothing wrong with the way I’m doing it either.” Sierra elaborated further when she shared that “it’s really helped me to see the way other people interpret and respond to things. . . . I want to know what they all think on a certain topic.” From the sharing of individual practices, participants were able to contextualize their own approaches and to improve them if necessary.

From a slightly different vantage point, sharing practices can also serve to establish a united front within the SUS. From Sierra’s perspective, “there are vaguely written statutes and processes. . . . People come together, interpret them together, and then, make a decision to agree

to do something moving forward.” Likewise, Whiskey noted that “as we build a repertoire of information and interpretations between each other, we start to move toward common ground, where we are speaking with the same voice and having a united front.” Moreover, Lima noted that “because we do share that knowledge, . . . a larger body really helps the system watch out for students.” Delta elaborated that “when there’s a set of issues affecting the entire group, we tend to receive attention or audience from the affected body such as the Board of Governors or the Legislature.” To this end, the participants described situations where they encountered opportunities to provide the governing board with their collective concerns about pending legislation.

According to Foxtrot, the influence of the registrars with the governing board “has been borne out over the decades. . . . I think the collaborative environment the SUS registrars have with the [governing board] have helped form where we are today in terms of process, reporting, legislation, whatever affects us.” Furthermore, he emphasized that the registrars are committed to maintaining a collaborative effort with respect to those issues.

The one thing about the Board is they’re not sitting on campuses. They know that it’s hard for them to promulgate policy or support policy or help write policy when they’re not familiar with how campuses operate in today’s world.

This united front enables the registrars to provide the Board of Governors a logical rationale as to why certain approaches will be unfeasible. In addition, the registrars have been able to collectively submit proposed adjustments to ameliorate unintended outcomes of governing body actions.

The practice perspectives described above illustrate that the SUS registrars have embraced peer-to-peer networking focused on learning and collective, cooperative, and

collaborative action (Allee, 1999; Bolman & Deal, 2008; Savage, 1996). As such, they have demonstrated a willingness to integrate personal learning with system-wide collective action (Senge et al., 1994).

### **The Integration of Domain, Community, and Practice**

As noted at the beginning of this section, a community of practice is comprised of three prominent characteristics—domain, community, and practice (see Figure 3, p. 35). The participant descriptions illustrated that the SUS registrars share a common focus with regard to academic record guardianship, administration of academic policies, stewardship of student information systems, and facilitation of degree attainment—reflective of the domain characteristic. With regard to the community characteristic, the participant perspectives described collective learning relationships based upon mutual respect, trust, civility, and collegiality (Chetty & Mearns, 2012; Wenger et al., 2002). Further, the participant descriptions indicated that they perceived themselves as reflective practitioners who generate and use the knowledge in their domain to make a difference individually and collectively. In other words, these practitioners anchor their learning within their institution and within the system which is representative of the practice characteristic.

That the participants were all registrars indicates membership by role in their community of practice. In addition, their community of practice provided the foundation for situated learning—learning through practice and participation (Lave & Wenger, 1991). Such learning includes not only acquiring existing knowledge and developing professional skills but also sharing best practices, innovation, and problem-solving (Brown & Duguid, 2000; Cox, 2005; Lave & Wenger, 1991). In other words, the strength of their community of practice “is self-

perpetuating. As they generate knowledge, they reinforce and renew themselves” (Wenger & Snyder, 2000, p. 143).

The following two data analysis sections focus on the typologies of knowledge sharing and knowledge development. These two typologies substantiate that a community of practice requires both knowledge sharing and knowledge development.

### **Knowledge Sharing Typology**

As evidenced in the review of the literature, knowledge sharing is a social process whereby individuals are influenced by the experiences of others (Argote & Ingram, 2000; Brown & Duguid, 2000; Søndergaard et al., 2007; Sveiby, 1997). The process of sharing knowledge requires at least two people, each with a different role—provider and seeker (Alavi & Leidner, 2001; Jasimuddin et al., 2012; O’Dell & Grayson, 1999).

Participants characterized knowledge sharing as a flow of information between practitioners. For instance, Lima portrayed knowledge sharing as an “act of relaying information based on common experiences.” Similarly, Delta described the process as an “exchange of useful information [focused] on our business practices.” Further, the participants perceived that their relationship with other participants was guided by the knowledge sharing process. This notion was illustrated by Tango’s description of the knowledge sharing process as “one-to-many and many-to-one conversations [where] you gain lasting friendships.” Moreover, Tango indicated that the process of sharing knowledge among the participants was supported by a “love of the job! When you have a passion for doing it, then it is the love of doing it and doing right by the student and the institution—without affecting your morals, your ethics.” Likewise, Kilo noted, “there’s nothing mandating any of us to talk to each other. It’s an amazing group of people who love what they do.” The participant characterizations above illustrate that

knowledge sharing was perceived as an informal, voluntary, need-based, social process focused on addressing common issues and practices.

Participants emphasized that knowledge sharing was not solely based upon relationships. As Bravo explained, “everybody has to feel a certain degree of responsibility in the sharing process. . . . Unless the group feels that sharing is important, it’s not going to happen.” Echo affirmed this notion. “If I’m sharing, then they’ll [be] more likely to answer my question. If I never answer when they send out their questions, . . . they would be less likely to share with me.” Delta elaborated further by indicating that sharing “knowledge is reciprocal. . . . It’s like you give information and you receive information.” Likewise, Whiskey characterized sharing knowledge as a “rewarding interchange. . . . Those dialogues don’t go without any kind of reciprocation.” Such reciprocity enables the development of a value added component for knowledge sharing. According to Kilo,

being able to have them message back or talk back, depending on what the forum is, and say, ‘Oh, yeah, I have a familiar or similar story. Let me tell you mine.’ . . . When the discussion starts, is when there’s value [to knowledge sharing].

Participant descriptions illustrate that the expectation of reciprocity motivated their willingness to share personal experiences and insights on issues of mutual interest (Bock et al., 2005).

According to the participants, being able to control who participated in conversations had an impact on their willingness to share experiences and insights candidly on common issues and practices. That is, while the participants were aware of the availability of a formal communication listserv, managed by the Board of Governors, Tango stated that “we are wary about things that we put on that listserv because you never know which eyes are looking.” Yankee noted that the formal listserv was rarely used among the participants. Instead, “we

typically all have our own little email groups setup in our email client where we email each other.” Delta indicated that the lack of use of the formal listserv was due to privacy concerns—“that sense of who would be looking at it. . . . [We need] a sense of trust and assurance that it’s just us.” Participant descriptions illustrated intentionality with regard to those invited to the conversations. In other words, the registrars trusted each other with whom they had established relationships.

Participants contributed to building trusting relationships by providing honest responses when addressing issues with the group. Lima noted that a challenge to sharing knowledge “is making sure that you’re being honest with everything—the good, the bad, and the ugly!” Likewise, Echo shared similar sentiments. She explained that they strive to “answer honestly and share everything. We even share that we’re having trouble in that area [because] that can be useful to know.” From a slightly different perspective, Tango indicated that when he encountered a situation in which he would be unable to share information with the others, instead of being silent on the issue, he would tell the group, “I hope you realize that I can’t share because of X, Y, and Z.” As illustrated above, knowledge sharing is contingent on relationships built on trust and honesty.

In addition, to their conceptions of trust and honesty, participants described their perspectives on learning—that is, how shared knowledge from one situation may be applicable, or not, to another situation (Singley & Anderson, 1989). For instance, Yankee voiced a need to exercise caution when thinking about the applicability of shared knowledge.

I have to take [shared knowledge] with a grain of salt because every institution has an institutional culture and institutional approach or philosophy that infuses their policies. . . . The things they deal with that could have informed [their approach] are not the same



stresses and pressures that I have here. Being aware of that, I think, factors a lot into the way I take the information I get from [others] and figure out whether . . . it [is] useful to me or not . . . and how [I] would . . . operationalize that here.

Likewise, Lima commented that the “devil is in the details! Is this going to get us to where we want to go? . . . How can it be implemented [to meet our needs]?” These viewpoints illustrate that the SUS registrars filtered shared knowledge against institutional differences in order to determine whether it would be applicable at their institutions.

In contrast, sharing knowledge among participants sometimes involved reassessing the applicability of one’s own practices. As Foxtrot noted, knowledge sharing can be viewed as an “early warning system. . . . You have a chance to reacquaint yourself with [a process] and reassess whether we should be doing it that way because of what they’re running into on their campus.” From a slightly different vantage point, Sierra expressed a sense of personal challenge when you learn that “you’re doing something differently. [Or,] you think you’ve been interpreting something wrong because somebody else is interpreting it [differently]. . . . You wonder how far out of the norm you are. Should you change it . . . [and] what the impact would be?” Similarly, Bravo acknowledged that, during a recent conversation about registration holds, she learned that “we do this a little differently than the rest of the people. Maybe there is something here that we should consider.” These perspectives on learning demonstrated that knowledge sharing has helped participants to increase their awareness and broaden their perspectives with regard to their own practices.

The perspectives described above highlighted that knowledge sharing is supported through relationships based on trust, honesty, and reciprocity. In contrast, a few issues were

identified as potential challenges to sharing knowledge— geographic distance, time, and competition.

Geographic distance was perceived as a potential obstacle because as Whiskey pointed out “physical distance prevents us from having more face-to-face dialogue than perhaps we would like.” Likewise, Yankee noted that “we don’t have the luxury of doing the drive-ins that we used to do back when there was a budget for such things.” Sierra indicated that there would be a benefit to having

quarterly scheduled meetings where all the registrars drive in to one location and just talk about stuff. I think that would help us even more. We see each other once a year and we email a lot, but no one actually sets aside time the way the admission directors do.

Several registrars indicated that the lack of frequency with regard to face-to-face meetings was less than ideal. However, they did not perceive the limitation as significantly curtailing their opportunities to share knowledge among the group.

Many of the registrars mentioned the lack of time to engage in knowledge sharing activities as problematic. Foxtrot exclaimed that the “biggest drawback to sharing knowledge is the activity of the day or the week or the month! The fact that you can’t stop to do what you need to do because you’re being asked to do so much more.” For example, at the state-wide conferences where these registrars do meet, they also present papers and best practices to others in attendance. Furthermore, Zulu explained that the registrars’ daily responsibility for records and policies required “documentation [that] is cumbersome and time consuming. No one has the time to develop effective documentation and to set aside the time to shape that knowledge in a way that can be easily consumed.” Similarly, Echo mentioned that when she’s engaged in sharing knowledge with other registrars, she will discover that what she’s sharing is not

completely documented. From her perspective, rather than a knowledge sharing challenge per se, it's more of a "wake-up call for me to say 'Hey, I need to make sure that all my internal policies and procedures are up-to-date.'" to present papers and best practices. Although the registrars indicated that the lack of time to engage in knowledge sharing activities was problematic, they were still able to participate in a viable community of practice.

With regard to competition, the recent implementation of SUS performance metrics has introduced a potential challenge to sharing knowledge among the SUS registrars. As Tango mentioned, in the current environment caution may be exercised when sharing knowledge because an "institution may not want you to share with other registrars. Prior to the performance metrics, that was never an issue. . . . Now there's competition." However, Lima contended that

we aren't thinking competitively. The ultimate goal, even with the metrics, is for students to get their degree and make their lives better. I think as long as we focus on that, we can probably still come to agreement and still have that knowledge to share.

In general, the registrars did not view their relationships as competitive. To illustrate this point, Whiskey, who had prior admissions experience, juxtaposed admission directors with registrars.

When I worked in Admissions we were not willing to share a lot of information with our counterparts . . . [because] we were competing for the same good students. . . . With the registrars, we're not competing against each other; we already have our students. So there's no reason for us not to be in a collaborative type of community with each other.

Thus, even in context with higher-education institutions judged against each other according to specific metrics, participants rarely identified competition as a challenge to knowledge sharing among the SUS registrars.

### **Knowledge Development Typology**

These registrars described knowledge development as an experiential process based upon professional issues and peer interaction. Tango noted that “until you’ve been in the Registrar’s Office for a number of years, you don’t understand that there are things that you don’t learn in school. [Rather], you actually learn on the job.” Accordingly, Foxtrot described the process of knowledge development as a combination of “experiences and accomplishments that you are involved in through the course of your actions and your job . . . [and] through interactions with your peers. To me the greatest knowledge is what you gain from the interactions with people.” Participants often referred to their interactions as on-the-job training and professional development. For instance, Sierra mentioned that

I think it’s really helped me to see other behaviors, the way other people interpret and respond to things. . . . Not just the answer they give me, but how they present it, I think, has been valuable to me professionally.

These perspectives illustrate that the participants view this experiential process as a flow of knowledge between seekers and providers of knowledge (Nonaka & Takeuchi, 1995).

Moreover, participants regarded knowledge sharing and knowledge development as being intertwined. Participants described the process of knowledge development as beginning when an individual has a need to gain information about an issue from their peers. To this end, Zulu stated, “I don’t think you can pull the two apart so that there’s a clear border between the sharing of knowledge and the development of it.” Yankee affirmed this belief when she indicated that she has to think about the implications of the information and advice she has received from others from the perspective of her institution.

You have to understand your own institution so you can filter anything coming from outside and determine what's the lay of the land here. How am I going to apply this or use this or is this even useful to me?

In her reflection on the knowledge sharing experience, she learns. Likewise, Sierra stated "I can take a lot of their feedback, but they're a completely different institution. So, lots of times it's like 'Well, OK, how would that work here?'" The participant descriptions illustrate the interconnectedness of the processes of knowledge sharing and knowledge development. In other words, knowledge development is occurring as they contemplate the application of this new knowledge.

The connection of knowledge sharing and knowledge development also requires what Kilo refers to as the "authority to experiment" in the local environment. Kilo explained that there is a distinct difference between doing what you are told to do

versus actually making decisions on processes and procedures. . . . [When] I consider doing something, [I think to myself,] "Hey, let's see what it's going to look like," and if it's an epic fail, that's OK, now I know how not to do it.

In other words, valuing failure and applying what has been learned from others in their local environments allows each registrar to learn through an experiential learning process. As noted in the review of the literature, experiential learning is a cycle of reflection, planning, acting, and observing (Chetty & Mearns, 2012).

Participants emphasized that the experiential learning process required them to be open-minded when communicating with their peers. Sierra stressed the importance of "listening to those around you who might have conflicting points of view." Moreover, she highlighted the importance of hearing "all sides of the story, . . . [because] until you listen to all points of view,

you don't really understand [the issue].” Learning among the SUS registrars is also reliant on common understandings. As Delta pointed out, knowledge development among the group is dependent on a “common meaning. . . . We could have all kinds of information [on an issue], but if I think one thing [and] it's not what you think . . . it's not going toward any kind of [meaningful] development.” The perspectives presented thus far demonstrate that meaning-making, that is knowledge development, is created by the receiver as opposed to the provider, especially when sharing tacit knowledge (Sveiby, 1997). These perspectives also illustrate that the participants engage in negotiated meaning-making (Wenger, 1998).

Participants characterized the process of negotiated meaning-making as a continual and difficult process that is also contingent on participant self-initiative. Lima highlighted the need for each participant to keep up with constantly changing state and federal requirements. She described the process as “time consuming, . . . it takes a lot of self-initiative. . . . For instance, where do you find information on pending laws? . . . Where do you find information on federal requirements that are changing?” Although participants spend time researching issues on their own, they indicated that their quest was not always successful. Bravo asserted that her lack of understanding about professional issues and interests “fuels [her] desire to learn and to acquire more knowledge” from her peers. Likewise, Whiskey shared a story about the difficulty of implementing vague statutes. As a means to seek clarity, the registrars started exchanging “questions about interpretation. . . . We would help each other . . . to kind of formulate our own business processes through talking to each other about how we're going to handle [the issue].”

Another aspect of negotiated meaning-making is the opportunity to test assumptions and interpretations. For example, Tango noted that “we're looking for validation that what we're doing is not only in the best interest of the student but in the interest of the institution.”

Likewise, Whiskey stated that when sharing “information and best practices . . . you can kind of check yourself against what other people are doing.” As Whiskey pointed out, during the course of a conversation about a policy, “I may realize my interpretation was wrong.” As a result, “[I] identified an opportunity . . . to make the process better for students [and the institution].” The perspectives above demonstrate that knowledge development occurs “within the process of accumulating, synthesizing, and sense making of information” (Petrides & Guiney, 2002, p. 1713).

Knowledge development is also reinforced when the registrars are problem-solving. As discussed earlier, a collaborative problem-solving environment can generate increased awareness and can broaden perspectives about issues. From Lima’s point of view, the SUS registrars engaged in problem-solving because they were focused on making “things better for the institution and for students.” For example, Tango described a problem-solving discussion about processes within their Student Information Systems (SIS) among the SUS registrars. Even though the institutions in the SUS do not use a standard ERP as their SIS, Tango indicated,

we poll all of the institutions . . . just to get an idea of how folks are doing things. It gives you an idea of “Oh, OK, if they’re doing this then it’s a possibility that I may be able to do something in our SIS that may be able to get the same results.”

From a slightly different perspective, Bravo noted that, although an idea may not be applicable, sometimes it “might ignite another idea for something else.” She explained that “you never know when that little piece of knowledge might come in handy. You just take it, absorb it, and you put it in your toolbox.” Likewise, Yankee stated “[I] stick it in my back pocket and hold on to it. As time progresses, job happens, things come up, I may attach other pieces of institutional awareness to that nugget [of information] that I’ve gotten from them.” These perspectives

highlight how a collaborative problem-solving environment can serve as a catalyst for adaptation and innovation. In other words, these perspectives demonstrate that the SUS registrars are engaged in a systems-oriented approach where they are rethinking not only what they do, but how they do it (Brown & Duguid, 2000; Senge, 1990).

### **Evaluation and Thematics**

Evaluation and thematics are the final dimensions of educational criticism (Eisner, 1988) used to frame data analysis in this study. The evaluation dimension focused on appraising participant experiences in the form of value judgments (Eisner, 1998, p. 100). Identification of recurrent participant messages with regard to knowledge sharing and knowledge development comprised the thematics dimension.

The selection of the participants, for the present study, was based on the premise that the group functioned as a community of practice engaged in knowledge sharing and knowledge development activities. As discussed earlier, a community of practice is based upon three prominent characteristics—domain, community, and practice (Wenger, 2004; Wenger et al., 2002). The analysis of the data revealed that the SUS registrars did indeed have a shared domain, were engaged in collaborative learning relationships, and strived to expand their knowledge with regard to their practice as registrars.

The domain characteristic was clearly apparent as the participants described a shared set of registrar responsibilities—guardianship of academic records, stewardship of student information systems, administration of academic policies, and facilitation of student degree attainment. These shared responsibilities and the common challenges associated with these responsibilities represented the registrars' domain within their community of practice (Wenger, 2004).



As Whiskey noted, the “common set of challenges that we all face brings people together.” For example, Yankee noted that recent changes with regard to the National Student Clearinghouse (NSCH) enrollment reporting had “really gummed up how we have to report data. . . . So, there’s been a lot of discussions on: How are we handling this? Do you report this? How do you report that?” Participant stories, such as Yankee’s, illustrated that the members of the community of practice possessed a “fundamental commitment to exploring its domain and to developing and sharing the relevant knowledge” (Wenger et al., 2002, p. 43).

The registrars’ ability to develop and share relevant knowledge was attributable to their collaborative learning relationships—representative of the second characteristic of a community of practice (Wenger et al., 2002). The data illustrated that their collaborative learning relationships were based upon mutual respect, trust, civility, and collegiality (Chetty & Mearns, 2012; Wenger et al., 2002). Trust appeared to be the most critical component because relationships built on trust

indicate an ability to share a high degree of mutual understanding, built upon a common appreciation of a shared social and cultural context. Both trust and mutual understanding, developed in their social and cultural contexts, are prerequisites for the successful transfer of tacit knowledge. (Roberts, 2000, p. 434)

Without trust, the registrars would not have been able to foster an adaptive and collaborative problem-solving environment oriented toward learning and innovation. For instance, Sierra elaborated on the NSCH enrollment reporting issue noted above.

We coordinated a call with [a representative] from Clearinghouse and everybody who could participate called in. . . . Everybody was very honest what their concerns were and what they were and were not doing. . . . I think if everybody wasn’t so honest then we

wouldn't have gotten as much out of that phone call. . . . It was invaluable to know where everybody stood.

The NSCH enrollment reporting issue described by Yankee and Sierra illustrated that trust was a catalyst to the creation of an environment that was conducive to the exchange of ideas and best practices, including insights on approaches not to take.

Furthermore, the viewpoints shared by the participants illustrated engagement in the development of a shared practice—the third characteristic of a community of practice (Wenger et al., 2002). For instance, Sierra commented that “communicating with each other is . . . professional development for me.” Although participants engaged in conversations that spanned from policy administration to technical SIS issues, Sierra explained that the focus of these conversations was not limited to learning how to do something. Rather, she stressed the importance of “having that ‘I know we can, but should we’ conversation.” In other words, these conversations included a focus on practitioner ethics as a complex area of their work in addition to their technical and procedural approaches to problem-solving.

The integration of the three characteristics—domain, community, and practice—was illustrated by several stories told during the interview process. Expanding upon previous examples, a recent topic of conversation among the registrars focused on a legislative change in defining in-state residency and an associated court case. Delta noted that the legislative change “created a collection of problems that affected several of us.” Whiskey elaborated further by describing the changes as “very ambiguous.” Moreover, he stressed that “when you have 10 or 11 different institutions reading that statute, chances are you're going to get 10 or 11 variations of how it's handled.” Zulu emphasized that ambiguity can be problematic because “we don't want to have our interpretation of residency policy being radically different from one another

because we want to be able to treat people fairly no matter what institution they attend.” To address the issues of ambiguity, the SUS registrars discussed the issue. Tango described the interaction as:

there were things that were happening and we as a group said “Hey, OK, how are we going to notify the students [to inform them] that they can now reclass [from out-of-state to in-state residency]? Who do we have to notify? Does this meet the spirit of the federal mandate? How does this affect us as far as state law?”

This example demonstrated that the registrars’ community of practice has successfully integrated the three prominent characteristics of domain, community and practice. That is, residency policy was representative of the domain characteristic. The collaborative interaction to gain a mutual understanding of the residency policy reflected the community characteristic. The identified actions to be taken, based upon the mutual understanding of the policy, reflected the practice characteristic.

The integration of the domain, community, and practice characteristics enabled the registrars’ community of practice to foster and facilitate knowledge sharing and creation (Wenger et al., 2002). Specifically, the SUS registrar community of practice reflected a “knowledge structure—a social structure that can assume responsibility for developing and sharing knowledge” (Wenger et al., 2002, p. 29) across all institutions. Additionally, because the SUS registrar community of practice crossed the boundaries of 12 institutions, their interactions reflected a community of practice with permeable boundaries among the institutions.

As previously noted in the literature, these permeable boundaries can counteract information silos and promote a climate of knowledge sharing and knowledge development

(Davenport & Prusak, 1998; Savage, 1996; Tobin, 1998; Wenger et al., 2002). For instance, Yankee explained that

by asking my fellow registrars certain questions . . . by extension, I'm tapping into the legal counsel of all the other institutions. . . . That's helpful for moving the discussion outside the wall of the university and trying to get a better perspective of other ways of doing things, other ways of looking at things.

Yankees' description demonstrated that these permeable boundaries have contributed to improved knowledge sharing and knowledge development within their community of practice and at their respective institutions.

Although the SUS registrars community of practice spanned 12 institutions and face-to-face interactions were infrequent, participants were able to form a distributed community (Wenger et al., 2002) with communication predominately via email and telephone. As Whiskey noted, "physical distance prevents us from having more face-to-face dialogue than perhaps we would like." Participants indicated that reliance on electronic communication was less than ideal, but they did not identify the lack of face-to-face interaction as particularly problematic. This perspective may be attributable to the overwhelming desire, voiced by the participants, to assist their fellow registrars. For instance, Delta emphasized the warm welcome she received when she started her registrar job.

When I got on board, . . . I reached out to the other registrars. They said . . . here's our group email. You just ask your questions, and we'll be able to help you. And, I thought "Yeah, right!" But, when I did [email questions], . . . I was so impressed by how much help, how much assistance I got.

Kilo expressed a similar experience when she joined the SUS registrar community of practice.

I just email them all. At least half of them get back to you right away. If the other ones don't get back to you right away, they either have somebody else answer on their behalf, or they're just out of the office and they haven't had a chance [to respond yet].

The ongoing electronic conversations helped new registrars acclimate to their role within the SUS.

Analysis of the data also revealed that the electronic conversations enabled each participant to extend their help to others within the 12 institutions—students, faculty, and staff. Lima emphasized that registrars are “focused on problem solving and very willing to share the information to help you. I think they're so used to solving problems on campus, they're willing to help solve problems even when it's not their campus.” Likewise, Zulu indicated that “sharing of knowledge helps us [to] serve all of our constituents substantially better.” The comments and experiences shared by Delta, Kilo, Lima, and Zulu reflected the perspectives of the other participants. No one indicated that the distributed nature of their community of practice inhibited their knowledge sharing activities.

However, participants did indicate a desire to meet face-to-face more often. Yankee noted that “we don't have the luxury of doing the drive-ins that we used to do back when there was a budget for such things.” From Foxtrot's perspective, the “infrequent [face-to-face] interaction” can limit the extent to which the SUS registrars can innovate as a collective. Sierra's comments reflected a similar sentiment, “I've actually wanted to do like quarterly scheduled meetings where all the registrars drive in to one location and just talk about stuff. . . . I think that would help us even more.” Although, participants indicated that their current process works for them, they did acknowledge that an increase in face-to-face interactions would enable them to expand their personal and professional relationships. Moreover, increased face-to-face

interaction would provide them with opportunities to deepen their mutual understanding on complex issues and to develop innovative ideas. As noted throughout this chapter, each registrar strives to nurture an environment where students, faculty, and administrators can attain the core mission of the institution—teaching and learning (Lanier, 2006).

Based on the description, interpretation, and evaluation of the data a few recurrent themes were identified. First, the SUS registrars demonstrated that their community of practice was based upon a knowledge-friendly culture. This knowledge-friendly culture was grounded by the relationships among the registrars and their experiences, beliefs, and values (Schein, 1992). As previously noted, Delta characterized their community of practice as “a culture of sharing and caring.” This knowledge-friendly culture was further evidenced by the SUS registrars common language and shared perspectives that enabled them to interpret situations in similar fashions (Pugh & Hickson, 1997).

In addition to the knowledge-friendly culture, the knowledge sharing social processes of the SUS registrars community of practice were contingent upon their social capital—the second identified theme. In other words, the shared values and behaviors of the participants were combined with trust, reciprocity, established norms, knowledge sharing (Gamoran et al., 2005), and empathy (Preece, 2003). The combination of the knowledge-friendly culture and social capital contributed to individual and collective knowledge development within the community of practice. Furthermore, the combination enabled the SUS registrars to make cooperative action possible (Cohen & Prusak, 2001). Finally, the SUS registrars community of practice demonstrated that permeable boundaries between competing institutions resulted in improved knowledge sharing (Hemmasi & Csanda, 2009; Kislov et al., 2012).

## Summary

A qualitative data analysis approach was used to analyze the data for the present study. As an interpretive process, qualitative data analysis required me to undergo a sense-making process (Patton, 2002). The sense-making process involved my professional connoisseurship informed by both the review of the literature related to the topic of study and two strategies for data analysis—educational criticism (Eisner, 1998) and typological analysis (Hatch, 2002).

The data analysis process began with data transcription (Kvale, 1996; Seidman, 1991) in June 2016. Educational criticism (Eisner, 1998) provided the broad formal framework for data analysis within which Hatch's (2002) typological analysis facilitated the description dimension, the first of four dimensions in educational criticism. Further, the description of patterns, relationships, and themes within typologies was facilitated through the development of a concept map representing each typology.

Participant interview data were analyzed using Eisner's (1998) multidimensional structure of educational criticism—description, interpretation, evaluation, and thematics. The concept maps for each typology facilitated interpretation of the descriptions of the data as a whole. Interview excerpts were used as illustrations to aid the reader in conceptualizing participant perceptions with regard to knowledge sharing and knowledge development and, in providing “referential adequacy” in term of the data (Eisner, 1988, p. 113), to substantiate credibility of the data analysis. The resulting description, interpretation, evaluation, and thematics of the data can assist leaders in the business and education sectors to gain an understanding of how a community or practice can facilitate a knowledge sharing and knowledge development.

Chapter 5 summarizes the present study, its purpose and research question, the review of the pertinent literature, the research design and methodology, and the analysis of participants' perceptions on knowledge sharing and knowledge development within a community of practice. The chapter includes a presentation of the research study conclusions followed by practice and leadership implications, and recommendations for future research.



## CHAPTER 5

### SUMMARY AND DISCUSSION

Chapter 1 provided the introduction to this research study to describe how members of a community of practice perceived and understood their experiences with knowledge sharing and knowledge development. Chapter 2 highlighted the literature relevant to the study's focus and described a conceptual framework that guided the study design. Chapter 3 outlined the qualitative research design, site and participant selection, and the data collection process. Participant perceptions were gathered with the use of one-on-one, in-depth, semi-structured interviews (Patton, 2002; Kvale, 1996).

Chapter 4 presented the analysis of the data collected for the present study. The analysis examined the perceptions of community of practice members with regard to knowledge sharing and knowledge development experiences. The data analysis process began during the transcription process (Kvale, 1996; Seidman, 1991) in June 2016 and used educational criticism (Eisner, 1998) as the formal overall framework for data analysis. The description dimension of educational criticism was augmented with the use of typological analysis (Hatch, 2002) and the resulting concept maps for each typology.

Chapter 5 summarizes the purpose of the present study, the review of the literature related to the topic of study, and the research design and methodology used to gather and analyze the data. The conclusions of the study with regard to the use of a community of practice as a knowledge management strategy are proffered as a guide to leaders in both education and business settings. The chapter concludes with recommendations for future research studies.

### **Purpose of the Study**

The purpose of this study was to explore how members of a community of practice within a public state university system (SUS) perceived their knowledge sharing and subsequent knowledge development experiences within the context of accountability and continuous improvement. Specifically, this study explored knowledge-sharing perceptions within a community of practice comprised of university registrars within a public postsecondary state university system. The study investigated the following question: How do members of a community of practice describe their knowledge sharing and knowledge development experiences within the context of accountability and continuous improvement?

### **Summary of Research Significance**

As noted in the review of the literature, very little empirical evidence exists with regard to the use of a community of practice model as a knowledge management strategy (Ramchand & Pan, 2012; Roberts, 2006; Ropes, 2009). Furthermore, scholars have identified a need to conduct further research on communities of practice that span institutional boundaries. Specifically, more data are needed to gain an understanding of the synergistic value of communities of practice that span institutional boundaries (Roberts, 2006; Ropes, 2009) as well as the extent of participant engagement in knowledge sharing activities (Hemmasi & Csanda, 2009). The results of this research study contribute to the empirical evidence with respect to the use of a community of practice model as a knowledge management strategy and provide insight into the synergistic value and the extent of participant engagement in knowledge sharing activities within a community of practice that spans institutional boundaries.

### Summary of Pertinent Literature

The review of the pertinent literature focused on five distinct and yet inter-related topics: (a) economic wealth—paradigm shifts, (b) human knowledge, (c) knowledge management, (d) fostering a knowledge-friendly culture, and (e) communities of practice. The first topic examined the shift of economic wealth within the U.S. from the colonial era, circa 1600s, through the early knowledge era that began in the mid-1980s (see Figure 1, on page 15). During the latter part of the 20<sup>th</sup> century and the first part of the 21<sup>st</sup> century, the world's knowledge has become more readily available to the masses as a result of tremendous technological innovations—the Internet, World Wide Web, and portable computers (Davenport & Prusak, 1998; Drucker, 1993; Lin, 2001; Savage, 1990; Stewart, 1997). Thus, knowledge has become an instrumental intangible institutional asset (Alavi & Leidner, 2001; Sallis & Jones, 2002, Søndergaard et al., 2007) and a shift has therefore taken place in humans' relationships to the knowledge they have developed.

Because knowledge is considered an instrumental intangible institutional asset in the early knowledge era, the basic concepts of explicit and tacit human knowledge were reviewed. Explicit knowledge refers to data, information, and codified procedures (Davenport & Prusak, 1998). Tacit knowledge resides in the minds of people (Fahey & Prusak, 1998; Nonaka & Takeuchi, 1995). Explicit knowledge is easily shared whereas tacit knowledge is difficult to articulate.

In response to increasing institutional emphasis on intangible knowledge-based assets, the paradigm shift to the early knowledge era is accompanied by the emergent discipline of knowledge management. The examination of theoretical perspectives of the knowledge management discipline revealed a variety of scholarly suppositions about the current and future

state of knowledge management. First-generation knowledge management is characterized as technology-centric with an emphasis on collecting, codifying, and disseminating knowledge (Alavi & Leidner, 2001; McAdam & McGreedy, 1999; McElroy, 2000). First-generation knowledge management disregards the social factors associated with placing collected information within appropriate contexts and learning (Thomas et al., 2001). Next-generation knowledge management is based upon the supposition that knowledge is a product of the human social system (McElroy, 2003; Snowden, 2002). As the discipline of knowledge management continues to mature, institutions have an increased awareness of and focus on knowledge sharing and knowledge development because of the increased focus on the role of social factors and social systems in these processes.

Shifting from a late industrial era to an early knowledge era can pose institutional challenges (Eckel & Kezar, 2003; Fullan, 2001; Savage, 1996; Senge, 1990; Uhl-Bien et al., 2007). An examination of the conflict between the late industrial era and early knowledge era paradigms included literature focused on fostering a knowledge-friendly institutional culture. An individual's knowledge, in the late industrial era, was perceived as the most valuable asset to possess (Bennet, 2001; De Long and Fahey, 2000). In contrast, the early knowledge era embraces peer-to-peer networking focused on sharing knowledge and learning (Allee, 1999; Bolman & Deal, 2008; Savage, 1996; Uhl-Bien et al., 2007). Fostering a culture that is conducive to knowledge sharing and knowledge development requires intentional institutional interventions and investments designed to establish and support collaborative initiatives (Davenport & Prusak, 1998; Leo et al., 2001; McElroy, 2003; Palanisamy, 2007; Sallis & Jones, 2002; Zheng et al., 2010). An example of such an intervention is the establishment of permeable boundaries. That is, people should be encouraged to cross institutional hierarchical boundaries,

both vertically and horizontally, to come together—physically or virtually, to exchange ideas, to share knowledge and skills, and to learn from others (Davenport & Prusak, 1998; Savage, 1996; Tobin, 1998).

The review of the literature also incorporated an exploration of the use of a community of practice as a mechanism to facilitate the flow of existing knowledge and the creation of new knowledge. Communities of practice are comprised of people who know each other and communicate, negotiate, and collaborate on issues (Lave & Wenger, 1991). A community of practice is comprised of three prominent characteristics (see Figure 3, on page 35)—domain, community, and practice (Wenger et al., 2002). Communities of practice have been shown to be influential with regard to knowledge sharing and knowledge development (Chetty & Mearns, 2012; Hemmasi & Csanda, 2009; Kislov et al., 2012; Wenger et al., 2002).

### **Research Design and Methodology**

As noted above, the review of the literature indicated a lack of evidence on how a community of practice functions when the members are from different institutions (Ropes, 2009). Specifically, more research was needed to gain an understanding of trust and communication among community of practice members from different institutions (Roberts, 2006; Wenger et al., 2002). This research study was therefore designed to gain insights on how members of a community of practice, each from a different institution, perceived their knowledge sharing and knowledge development experiences.

The choice of a qualitative research methodology was consistent with the research question focused on understanding of participant perspectives regarding knowledge sharing and knowledge development within a community of practice (Marshall & Rossman, 2011; Patton, 2002; Seidman, 1991). I served as the primary instrument for collecting and analyzing the data

(Patton, 2002). My connoisseurship of knowledge sharing and knowledge development within a community of practice was augmented by a review of the pertinent literature, which also informed data collection and analysis.

The use of an in-depth, semi-structured interview approach allowed for the development of an understanding regarding how people make meaning of their experiences (Kvale, 1996; Patton, 2002; Yin, 2014). In this study, the Florida State University System (SUS) was the selected site, and the university registrars at each institution within the SUS were the selected participants. This site and these individuals functioned as a community of practice within a complex system of public higher education that has developed extensive accountability measures. Therefore, the experiences of these professionals might be heuristic. Although the Florida SUS is comprised of 12 institutions, only 11 registrars were invited to participate due to the departure of the 12<sup>th</sup> just as data collection began. All invited participants agreed to participate in the study.

One-on-one interviews were conducted in a mutually agreed upon location. In an effort to put the interviewee at ease, the interview was designed as a guided conversation (Yin, 2014). A purposeful conversation with a common focus was gained through the use of an interview guide (Patton, 2002). The review of the literature associated with topic of research was used as the foundation for the development of the interview guide. The use of open-ended questions provided me with an opportunity to rearrange the sequence of and to adjust the wording of questions as the interview unfolded (Kvale, 1996). Moreover, the open-ended questions enabled me to ask follow-up questions in order to gain clarification of what was said and to learn more details about an experience discussed (Seidman, 1991). My connoisseurship was helpful in the formulation of these follow-up questions (Kvale, 1996).

A qualitative data analysis approach was used to analyze the data collected. In addition to my connoisseurship and a review of the literature associated with the topic of study, two strategies for data analysis were used—educational criticism (Eisner, 1998) and typological analysis (Hatch, 2002).

### **Credibility and Rigor**

The demands of credibility and rigor were addressed within every aspect of the research study—problem formulation, research design, site selection, participant selection, data collection and analysis procedures, and dissemination of findings (Howe & Eisenhart, 1990). The research design and data collection and analysis techniques were based upon the research question to be explored. Further, the salient elements of the literature review guided both data collection and data analysis.

To demonstrate that interpretations of the data were warranted and met standards of credibility, three processes were used: (a) structural corroboration, (b) consensual validation, and (c) referential adequacy (Eisner, 1998). The analysis of the data collected through the interview sessions of the 11 participants provided the opportunity for structural corroboration. Eisner (1998) emphasized that “structural corroboration in educational criticism, as in law, requires the mustering of evidence” (p. 111). The use of structural corroboration enabled me to collect and share perspectives from multiple sources which increased the trustworthiness of the data (Patton, 2002).

Educational criticism is reliant upon consensual validation (Eisner, 1998). To increase credibility and rigor, I endeavored to convey the analysis of the data in such a manner that a knowledgeable reader would be able to follow my sense-making process. That is not to say that

the reader must agree with what is stated. Rather, it means the reader must be able to understand how I came to my conclusions.

Referential adequacy is another criterion that relates to data analysis. Because increasing understanding of a phenomenon is a key underpinning of qualitative data analysis, the researcher needs to build upon, or refer to, “how those being interviewed view *their* world, to learn *their* terminology and judgments, and to capture the complexities of *their* individual perceptions and experiences” (Patton, 2002, p. 348). During all steps in data analysis, I grounded interpretation in what the participants said and shared how the connections between the data and the interpretation of those data were made.

### **Summary of Data Analysis**

The examination of the interview data revealed that the registrars were all very appreciative of their community of practice, albeit, they did not refer to their group as such. The participant descriptions illustrated that the SUS registrars shared a common focus with regard to academic record guardianship, administration of academic policies, stewardship of student information systems, and facilitation of degree attainment—with such a common focus representative of the domain characteristic of a community of practice. Each participant characterized his or her interactions with the other registrars as collaborative learning relationships based upon mutual respect, trust, civility, and collegiality. These relationships were representative of the community characteristic. Moreover, the participants perceived themselves as reflective practitioners who generated and used the knowledge in their domain to make a difference individually within their institutions and collectively across institutions—reflective of the practice characteristic of a community of practice.



The data included numerous SUS registrar stories that illustrated the integration of the characteristics of domain, community, and practice. Thus, the SUS registrar community of practice reflected a “knowledge structure—a social structure that can assume responsibility for developing and sharing knowledge” (Wenger et al., 2002, p. 29). The participant comments substantiated that a community of practice can serve as a means to expand knowledge development and dissemination across institutional boundaries.

Participants described knowledge sharing as a flow of information and knowledge among practitioners (Alavi & Leidner, 2001; Jasimuddin et al., 2012; Nonaka & Takeuchi, 1995; O’Dell & Grayson, 1999). Moreover, they characterized the process as an informal, voluntary, need-based social process (Brown & Duguid, 2000; Sallis & Jones, 2002; Snowden, 2002). The participants’ perceptions of knowledge sharing were in close alignment with the concepts of social capital. For instance, participants emphasized that their culture of sharing was based upon cooperative relationships built on trust and motivated by the expectation of reciprocity (Bock et al., 2005)—hallmarks of social capital (Gamoran et al., 2005).

Participants perceived knowledge development as a reflective, experiential process based upon professional issues and peer interactions (Chetty & Mearns, 2012). More importantly, each described the knowledge development process as personal. In other words, the descriptions provided by the participants illustrated that meaning-making was created by the recipient as opposed to the provider (Sveiby, 1997). Although meaning-making was personal, the process often involved negotiated meaning-making among the registrars (Wenger et al., 1998). The perspectives shared by the SUS registrars illustrated that knowledge development did indeed occur “within a process of accumulating, synthesizing, and sense making of information” (Petrides & Guiney, 2002, p. 1713).

## Research Study Conclusions

As outlined in Chapter 1, the business and educational sectors have begun to focus on knowledge-based assets as a means of achieving institutional sustainability in the process of transitioning from a late industrial era to an early knowledge era (Sallis & Jones, 2002; Søndergaard et al., 2007; Uhl-Bien et al., 2007). At the same time, rising stakeholder accountability and continuous improvement initiatives are highlighting the challenges associated with transitioning from an industrial era to a knowledge era (see Figure 2, on page 17).

For the present study, these challenges were associated with the Florida SUS Board of Governors' adoption of 10 accountability measures (Florida Board of Governors, 2015) and accompanying legislative mandates. As discussed in Chapter 3, two of the adopted measures focused on timely degree completion. Specifically, one measure addressed time-to-degree and another measure addressed hours-to-degree, areas of concern for university registrars and thus significant foci for their work lives. As depicted in Figure 2, these top down, bureaucratic accountability mandates illustrated late industrial era thinking.

Participant perspectives revealed that the timely degree completion measures, along with the associated legislative changes, have presented the SUS registrars with adaptive challenges. In other words, the SUS registrars were unable to effectively address these degree completion measures with traditional approaches based on past experiences. Rather, these challenges have required the application of a systems-oriented approach that involved rethinking what they do and how they do it (Brown & Duguid, 2000; Senge, 1990; Uhl-Bien et al., 2007). For example, several participants noted that until recently students had unlimited freedom to explore academic disciplines before selecting a major. As Whiskey exclaimed,

up until a few years ago the whole mantra in higher ed was, you know, use that time to find yourself. . . . identify what you enjoy, identify what you are good at. . . . Don't feel like you have to rush into a major the moment you step foot on campus. Well, all that changed real quick once excess hours . . . took hold!

According to Delta "excess credit hour initiatives [were legislatively implemented] . . . because a lot of our students, they stay and stay and stay. They don't . . . plan to graduate." Yankee elaborated further by noting that in 2009, "the legislature made some significant changes in law. Excess hours came into being for the first time. . . . [The legislature] passed the law with the expectation that . . . [implementation would occur] in the fall of the same year!" Although the legislative mandate has been in place for a number of years now, Sierra commented that "people still send out things about excess hours because they're confused. . . . What about this person, what about that person?" The comments shared by the participants indicated that the complexity of the implementation of the excess hour legislation was exacerbated because the law was modified 3 times over 4 years. Further complicating matters, excess hours have also been incorporated into the Board of Governors' accountability measures.

The stories shared by the registrars illustrated that they were unable to effectively address the excess hour accountability mandates through the "application of authoritative expertise" (Heifetz et al., 2009, p. 19) or traditional practices and processes. In other words, the SUS registrars acknowledged that they were being challenged to become adaptive and innovative. The challenge to become adaptive and innovative appeared to strengthen their bond, especially with regard to the facilitation of student degree attainment.

The lack of competitiveness among the SUS registrars was surprising given the recent adoption of accountability measures intentionally designed for institutions to be either winners or

losers with regard to funding (Florida Board of Governors, 2015). The analysis of the data revealed that the SUS registrars considered themselves to be members of a profession that is committed to the core mission of higher education—teaching and learning. To this end, they strived to nurture an environment that facilitates the attainment of student academic credentials. Furthermore, the participants demonstrated dedication to preserving institutional memory with regard to teaching and learning through effective guardianship of academic records and stewardship of student information systems.

This professional bond appeared to fortify their capacity for fostering a knowledge-friendly culture. Based on participant perspectives, this culture was built upon a nonjudgmental environment conducive to the exchange of ideas and best practices. Further, this nonjudgmental environment instilled an atmosphere where members were encouraged to expose their vulnerability. As such, the participant stories reflected a willingness to ask questions, to openly discuss opposing viewpoints, to test assumptions, and to explore alternative approaches. In essence, the analysis of the data strongly suggested that the SUS registrars were engaged in collective learning with a strong emphasis on problem-solving. For this reason, the analysis of the data supported the value of synergistic communities of practice that span institutional boundaries (Roberts, 2006).

Unexpected was the extent to which this problem-solving environment was reliant on the expectation of reciprocity as a significant motivating factor for knowledge sharing. The combination of trust, knowledge sharing, reciprocity, and cultural norms appeared to indicate that the social capital of the community of practice enhanced the motivation to share. This perspective was further substantiated by the degree to which empathy was displayed by the

participants—another characteristic of the development of social capital. For instance, Yankee commented that the SUS registrars are

very good about, not only sharing information, but kind of keeping an eye out or having an antenna or an awareness of what's going on at other institutions and extending a helping hand. On more than one occasion, something has happen here at the university, and then I receive emails, typically in sympathy or solidarity, from other registrars around the state saying: "Hey, we've all been there, hang in there!"

The analysis of the data strongly suggested that the success of the SUS registrar community of practice as a catalyst for sharing and developing knowledge was attributable to the time invested in developing their social capital. The inclusion of social capital as a contributing factor of knowledge sharing illustrated "what a complex thing knowledge is for human beings. Knowledge involves the head, the heart, and the hand: inquiry, interactions, and craft" (Wenger et al., 2002, p. 45).

To summarize, the analysis of the data suggested that the participants' community of practice had synergistic value within the SUS. Moreover, the data substantiated that the significant engagement in knowledge sharing activities and subsequent knowledge development were facilitated by social processes (Becheikh et al., 2010; McElroy, 2003; Norris et al., 2003; Petrides & Nodine, 2003). For these reasons, the data indicated that the SUS registrar community of practice can serve as a knowledge management strategy. This conclusion contributes to the research of other scholars (Ramchand & Pan, 2012; Roberts, 2006; Ropes, 2009).

### **Implications for Practice**

The analysis of the data indicated that the SUS registrars should investigate implementing an official listserv or collaborative site such as SharePoint to organize the knowledge that is shared among the members. Several participants indicated that a challenge with sharing knowledge is the lack of a central repository. For instance, Delta stated that knowledge sharing is “ad hoc, is quite purposeful, and we consume it immediately. No one is storing it. We keep no real record of that communication.” Other participants emphasized the difficulty in keeping up with the chain of a conversation because it is contained in numerous emails in their email inbox or file folders. The lack of an official listserv also makes emailing the entire group a tedious process. As Sierra described the process, “we don’t have an active listserv where I can easily reach out. . . . [I] manually send emails to people.” By using this approach, new members could be inadvertently left off of a conversation. A listserv could be hosted by one of the institutions with the registrar serving as its owner and thus limiting the access to other registrars in the SUS. In other words, the listserv would be private. As noted above, the listserv can serve as a repository of conversations which can facilitate knowledge sharing and knowledge development.

Data analysis supports the recommendation that the SUS registrars meeting face-to-face as a group without outside participation would be beneficial and desirable. For instance, at the Annual Florida Higher Education Summit, the SUS registrars could allot an entire day to meet among themselves. From Foxtrot’s perspective, this would provide an opportunity for “dialogue among the registrars.” Based on his past experience with a national registrar community of practice, Foxtrot contended that face-to-face interaction would enable the registrars to discuss “issue after issue after issue until each issue was talked out.” Moreover, opportunities to meet face-to-face more than once a year would be beneficial.

Participants noted that the registrars should be intentional about setting aside time to meet on a regular schedule. Several participants mentioned that in the past the registrars met face-to-face on a more regular basis—until budgets were reduced. If the participants allotted time at the one event they do regularly attend, they might then be in a position to demonstrate the value of their meetings to their institutional leadership and thus be able to garner more institutional support for their efforts.

### **Implications for Leadership**

Data analysis described the existence of permeable boundaries among the 12 institutions and with the Board of Governors. Data analysis also illustrated that the SUS registrar community of practice can serve as a conduit for learning about pending policy changes, thereby gaining an understanding of policy implications, and, at times, submitting recommendations to policymakers with regard to the implementation of SUS policies. In such cases, interaction across permeable boundaries can lead to direct benefits. Further, data analysis substantiated that the SUS registrars' spontaneity and their self-governing nature have successfully contributed to knowledge sharing and subsequent knowledge development within their community. These findings are in alignment with other studies suggesting that institutional leaders directly support communities of practice that span institutional boundaries (Hemmasi & Csanda, 2009; Kislov et al., 2012).

Both data analysis and the literature (Lanier, 2006) reflect the increasing role of registrars in influencing policy. This development was most evident in their descriptions regarding the inconsistency and unfairness of policies. For this reason, institutional leaders should support and nurture the SUS registrar community of practice. Minimal investments in travel budgets would provide registrars with the opportunity to engage more frequently face-to-face. In addition,

institutional leaders could assist the SUS registrars in creating a centralized, shared virtual environment for communicating with each other and where the group could store documents. Additionally, there may be other SUS role-based communities of practice that could be supported and nurtured with similar investments.

### **Limitations and Recommendations for Future Research**

The present research study is not without limitations. Limitations constrain the process of generalization from one study and, at the same time, indicate areas for possible future research. Indeed, the processes of generalization in qualitative research recognize that the results from one study provide the basis for naturalistic generalization (Donmoyer, 1990; Eisner, 1998). That is, what we learn in one study contributes to the development of more sophisticated schema regarding how experience in complex institutions may take place.

The interactions between limitations and recommendations for further research are evident in this study. The data for the study were collected from a single public postsecondary state university system and, thus, limited to 11 participants. The participants all served as the university registrar at their respective institutions and thus the community of practice was role-based. Furthermore, this group shared a commitment to helping student degree completion and therefore were willing to share their perspectives with others. Therefore, they were not only voluntary participants but also willing participants in the study.

The present study highlighted that a community of practice within a public higher education state university system was a useful knowledge management strategy because the participants demonstrated the creation of new knowledge through knowledge sharing activities.



The data analysis did indicate that the SUS registrars' community of practice, spanning the boundaries of 12 institutions, was able to foster an adaptive, innovative, and collaborative problem-solving environment.

However, it is unclear if this environment occurred because the community of practice was role-based. To gain a better understanding of this uncertainty, further research should be conducted with a focus on communities of practice, within a public state university system, comprised of members with either a different role such as financial aid directors or a mixture of roles.

It was also unclear as to whether the small intimate size of the SUS registrars' community of practice was a contributing factor to their ability to foster an adaptive, innovative, and collaborative problem-solving environment. Future research within a larger university system or among a larger group who share roles with common interests might help to ascertain if there is a threshold beyond which a larger community of practice becomes unwieldy and unproductive.

In addition, this group developed shared cultural norms that facilitated their knowledge sharing processing. Similarly, new members who joined the group embraced these cultural norms. Further research could explore how such processes developed.

### **Summary**

This chapter included a summary of the purpose of the study, the review of pertinent literature, and the research methodology that guided the collection and analysis of the data. Additionally, a summary of data analysis processes, implications for practice and leadership, and recommendations for future research were included.

The data analysis summary emphasized that the shift from the late industrial era to the early knowledge era has posed challenges to the SUS registrars with regard to accountability and improvement issues. As such, the SUS registrars' community of practice has served as a knowledge-friendly culture focused on the facilitation of knowledge sharing and knowledge development activities. As a result, their ideas have been adopted into institutional practice to solve problems. In other words, the SUS registrars community of practice demonstrated that it functions as an adaptive, innovative, and collaborative problem-solving environment oriented towards learning and innovation (see Figure 4, on page 41).

A summary of the conclusions derived from the data analysis were provided to help guide leaders in both educational and business settings with the use of a community of practice as a knowledge management strategy. The perceptions of the members of the SUS registrars' community of practice can serve as an exemplar for other professionals, within other higher education systems, who may wish to consider the power of this knowledge management strategy.

## Appendix A IRB Approval



UNIVERSITY of  
NORTH FLORIDA.

Office of Research and Sponsored Programs  
1 UNF Drive  
Jacksonville, FL 32224-2665  
904-620-2455 FAX 904-620-2457  
Equal Opportunity/Equal Access/Affirmative Action Institution

### MEMORANDUM

**DATE:** April 9, 2015

**TO:** Ms. Shawn Brayton

**VIA:** Dr. Elinor Scheirer  
Leadership, School Counseling & Sports Management

**FROM:** Dr. Jennifer Wesely, Chairperson  
On behalf of the UNF Institutional Review Board

**RE:** Declaration of Exempt Status for IRB#732960-1:  
"Dissertation Research Study"

UNF IRB Number: 732960-1  
Exemption Date: 04-09-2015  
Status Report Due Date: 04-09-2018  
Processed on behalf of UNF's IRB *KLC*

Your project, "Dissertation Research Study" was reviewed on behalf of the UNF Institutional Review Board and declared "[Exempt](#)" [category 2](#). Based on the recently revised [Standard Operating Procedures](#) regarding exempt projects, the UNF IRB no longer reviews and approves exempt research according to the [45 CFR 46](#) regulations. Projects declared exempt review are only reviewed to the extent necessary to confirm exempt status.

Once data collection under the exempt status begins, the researchers agree to abide by these requirements:

- All investigators and co-investigators, or those who obtain informed consent, collect data, or have access to identifiable data are trained in the ethical principles and federal, state, and institutional policies governing human subjects research (please see the [FAQs on UNF IRB CITI Training](#) for more information).
- An informed consent process will be used, when necessary, to ensure that participants voluntarily consent to participate in the research and are provided with pertinent information such as identification of the activity as research; a description of the procedures, right to withdraw at any time, risks, and benefits; and contact information for the PI and IRB chair.
- Human subjects will be selected equitably so that the risks and benefits of research are justly distributed.
- The IRB will be informed as soon as practicable but no later than 3 business days from receipt of any complaints from participants regarding risks and benefits of the research.
- The IRB will be informed as soon as practicable but no later than 3 business days from receipt of the complaint of any information and unexpected or adverse events that would increase the risk to the

participants and cause the level of review to change. Please use the [Event Report Form](#) to submit information about such events.

- The confidentiality and privacy of the participants and the research data will be maintained appropriately.

While the exempt status is effective for the life of the study, if it is modified, all substantive changes must be submitted to the IRB for prospective review. In some circumstances, changes to the protocol may disqualify the project from exempt status. Revisions in procedures that would change the review level from exempt to expedited or full board review include, but are not limited to, the following:

- New knowledge that increases the risk level;
- Use of methods that do not meet the exempt criteria;
- Surveying or interview children or participating in the activities being observed;
- Change in the way identifiers are recorded so that participants can be identified;
- Addition of an instrument, survey questions, or other change in instrumentation that could pose more than minimal risk;
- Addition of prisoners as research participants;
- Addition of other vulnerable populations;
- Under certain circumstances, addition of a funding source

Investigators who plan to make any of the above changes should contact the IRB staff so that the review level can be changed as necessary. If investigators are unsure of whether a revision needs to be submitted, they should contact the IRB staff for clarification.

Your study was declared exempt effective 04/09/2015. Please submit an [Exempt Status Report](#) by 04/09/2018 if this project is still active at the end of three years. However, if the project is complete and you would like to close the project, please submit a [Closing Report Form](#). This will remove the project from the group of projects subject to an audit. An investigator must close a project when the research no longer meets the definition of human subject research (e.g., data collection is complete and data are de-identified so the researcher does not have the ability to match data to participants) or data collection *and* analysis are complete. If the IRB has not received correspondence at the three-year anniversary, you will be reminded to submit an [Exempt Status Report](#). If no [Exempt Status Report](#) is received from the Principal Investigator within 90 days of the status report due date listed above, then the IRB will close the research file. The closing report or exempt status report will need to be submitted as a new package in IRBNet.

All principal investigators, co-investigators, those who obtain informed consent, collect data, or have access to identifiable data must be CITI certified in the protection of human subjects. As you may know, **CITI Course Completion Reports are valid for 3 years**. Your completion report is valid through 01/17/2018 and Dr. Scheirer's completion report is valid through 10/06/2016. The CITI training for renewal will become available 90 days before your CITI training expires. Please renew your CITI training within that time period by following this link: <http://www.citiprogram.org/>. Should you have questions regarding your project or any other IRB issues, please contact the research integrity unit of the Office of Research and Sponsored Programs by emailing [IRB@unf.edu](mailto:IRB@unf.edu) or calling (904) 620-2455.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within UNF's records. All records shall be accessible for inspection and copying by authorized representatives of the department or agency at reasonable times and in a reasonable manner. A copy of this memo may also be sent to the dean and/or chair of your department.

UNF IRB Number: 732960-1 Exemption Date: 04-09-2015 Status Report Due Date: 04-09-2018 Processed on behalf of UNF's IRB <i>KLC</i>
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## **Appendix B**

### **Letter of Introduction**

Dear \_\_\_\_\_:

I would like to introduce a colleague of mine to you. Shawn Brayton has been employed at UNF for 30+ years. During the first part of her career at UNF, Shawn provided computing support to admissions, student records, and academic advising. In the early 1980s she was the architect for UNF's first online academic student information system (OASIS). She currently serves as UNF's director for academic programs and accreditation. In her current capacity, she was the team leader for the implementation of Banner Student, assists Enrollments Services with issues related to accountability and continuous improvement, and serves as the institutions SACS Liaison.

In addition to her professional responsibilities, Shawn is also pursuing her doctorate in Educational Leadership at UNF. As part of the fulfillment of the requirements for her degree, she is conducting a research study on the perceptions of knowledge sharing and knowledge development. The purpose of her research study is to gain an understanding of knowledge sharing and knowledge development experiences and perceptions of SUS Registrars within the context of accountability and continuous improvement.

Attached is her letter of invitation to participate in the research study. I hope you decide to participate in this research study because it will add much needed empirical data that can be beneficial to public institutions of higher education within a state university system.

Closing

## Appendix C

### Informed Consent Form

Dear Participant,

My name is Shawn Brayton and I am a student enrolled in the Educational Leadership doctoral program at the University of North Florida. As part of the fulfillment of the requirements of my degree, I am conducting a research study on the perceptions of knowledge sharing and knowledge development. The purpose of the present study is to gain an understanding of knowledge sharing and knowledge development experiences and perceptions of SUS Registrars within the context of accountability and continuous improvement.

You have been asked to participate in this research study because you serve as the Registrar at your institution. Participation is voluntary. If you agree to participate, you will take part in an interview that will last about 60 to 90 minutes.

During the interview, you will be asked to describe your experiences with knowledge sharing and knowledge development within the context of accountability and continuous improvement. There are no penalties for skipping questions. Additionally, you may retract an answer to any question(s) at any time during the data collection process. Thus, you may choose to withdraw from this study at any time.

Your responses will be confidential. To prevent individual identification, pseudonyms will be used. Audio recordings of interview sessions, interview and reflection notes, and lists of participants' names and their pseudonyms will be stored on at least two password-protected secure servers where transcriptions and analyses will likewise be stored. The data stored on the password protected secure servers will be accessible only to me and to my major professor. Upon completion of the study, digital recordings and the list of matching of participant to pseudonyms will be destroyed.

Data from this study will be published in a dissertation. In addition, the data may be used in future research publications. Therefore, the original notes taken during each interview, reflection notes, and transcribed data will be maintained for use in future publications for a maximum of 5 years per record retention protocols.

You will not be compensated for your participation in this study. In addition, there are no direct benefits to you from your participation in this study; however, you will be adding to an area of education that is under-represented and under-researched. Furthermore, there is no foreseeable reason to conclude that injury will result from your participation in this study.

If you have any questions about this study, you may talk to me at \_\_\_\_\_ or email \_\_\_\_\_  
 You may also contact my dissertation chair, Dr. Elinor A. Scheirer, at \_\_\_\_\_  
 or email her at \_\_\_\_\_ for further information. If you have any questions  
 about your rights as a research participant, you may contact the chair of the Institutional Review  
 Board at the University of North Florida by calling \_\_\_\_\_ or emailing [irb@unf.edu](mailto:irb@unf.edu).

Thank you for your consideration of this opportunity to participate in this research study.

Sincerely,  
Shawn Brayton

I \_\_\_\_\_ (print name) attest that I am at least 18 years of age and agree to take part in this study. A copy of this form was given to me to keep for myself.

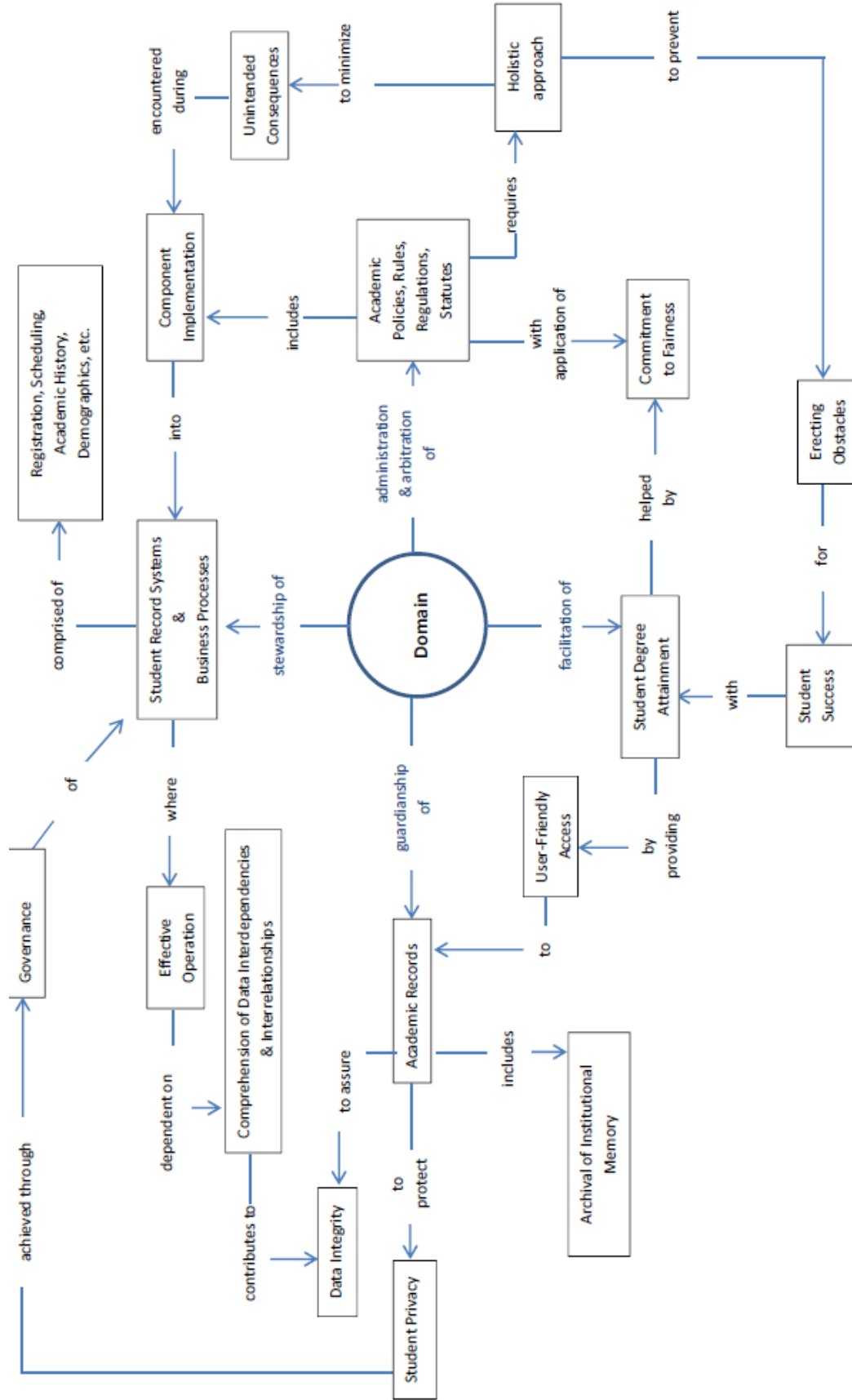
## **Appendix D**

### **Interview Guide**

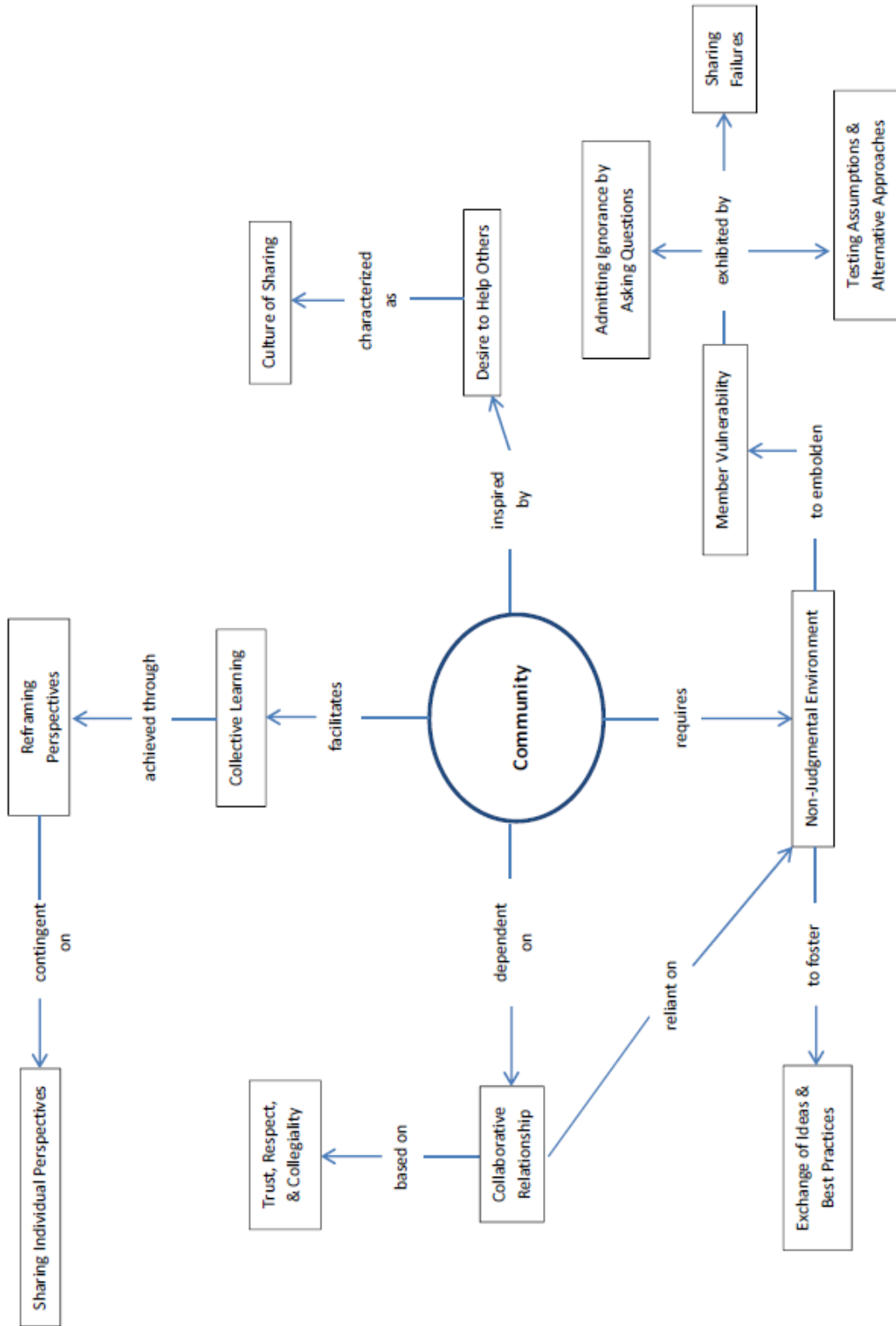
1. How long have you served as the registrar for your institution?
2. How would you describe your role and responsibilities as the university registrar?
3. How do you, in your capacity as Registrar, contribute to the achievement of institution accountability and continuous improvement initiatives?
4. What knowledge do you bring to the table?
5. I understand that the SUS registrars interact on various issues. How would you describe these interactions?  
Follow-up: What would be an example?
6. What topics do you discuss?  
Follow-up: What would be an example?
7. How do you describe the process of sharing knowledge?
8. What supports this process?  
Follow-up: What would be an example?
9. What do you find challenging with sharing knowledge?
10. How do you obtain information from the other Registrars?
11. Who are the first three people you would ask for information about an accountability issue?  
Follow-up: Whom else would you solicit such advice?
12. How do you benefit from sharing knowledge with the other Registrars?
13. How do you think the group of Registrars benefit as a whole?  
Follow-up: What would be an example?
14. What potential benefits might apply to the system as a whole?  
Follow-up: What would be an example?
15. How do you describe the process of knowledge development?
16. Is there anything else you would like to share which you have not had an opportunity to share?



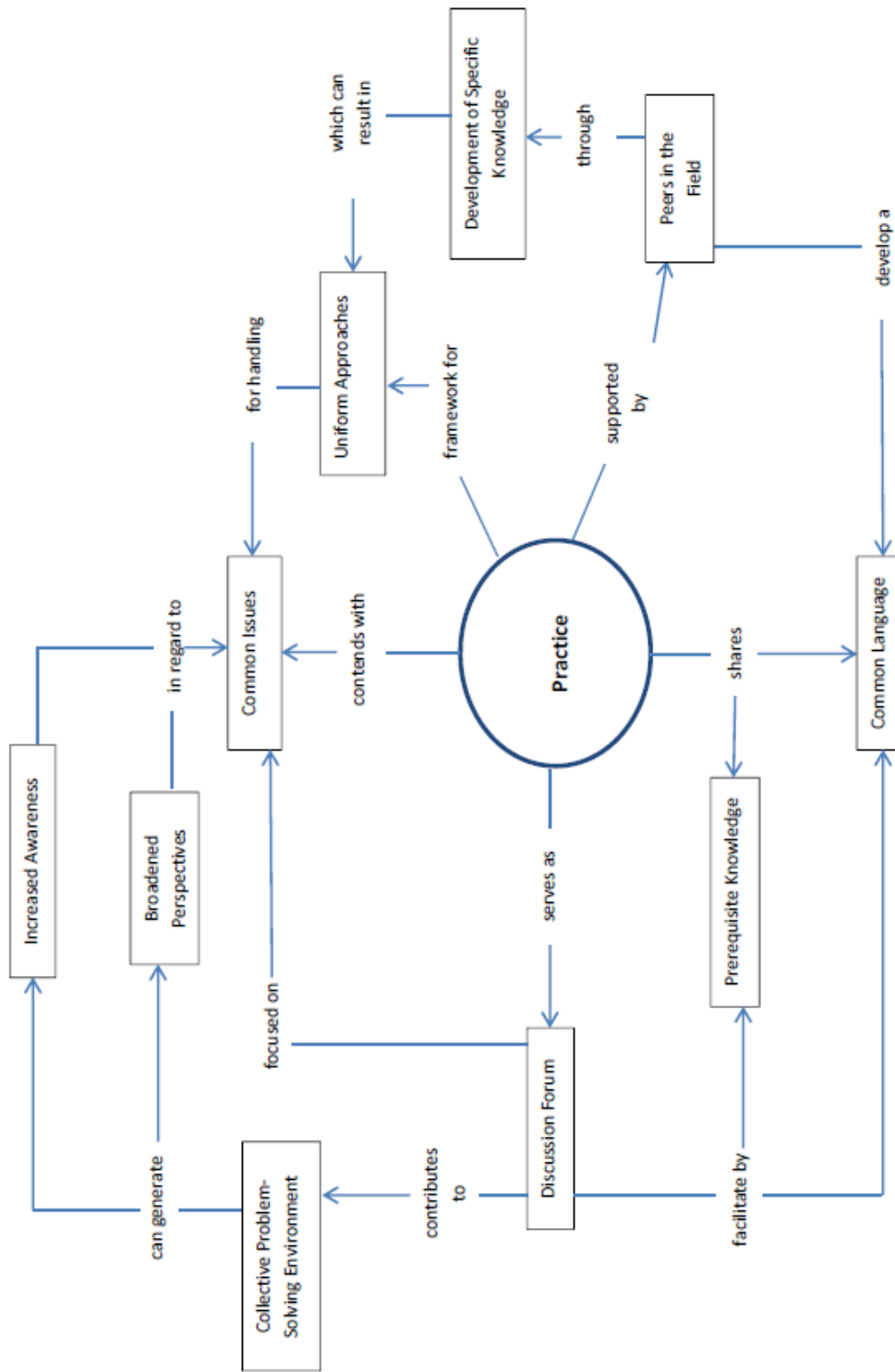
**Appendix E**  
**Concept Maps**



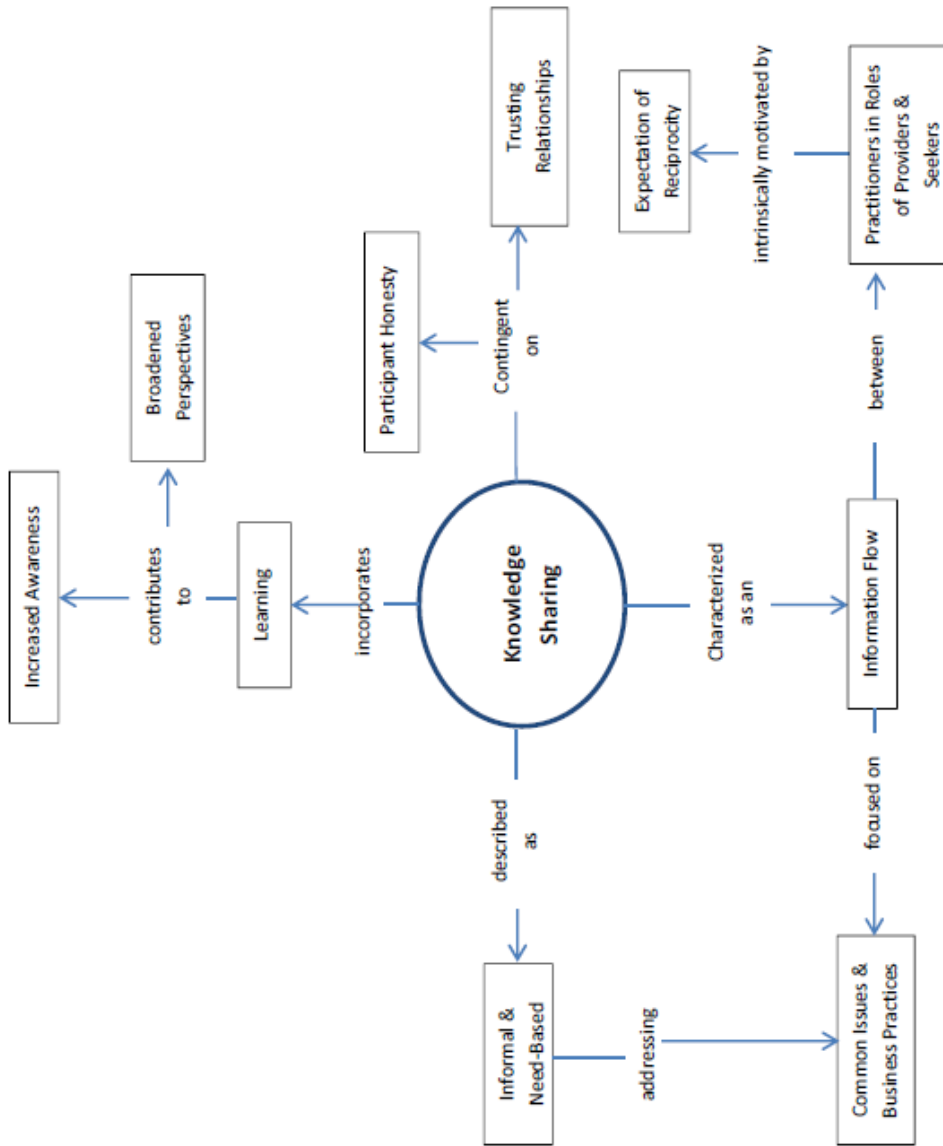
Community of Practice: Domain Typology Concept Map



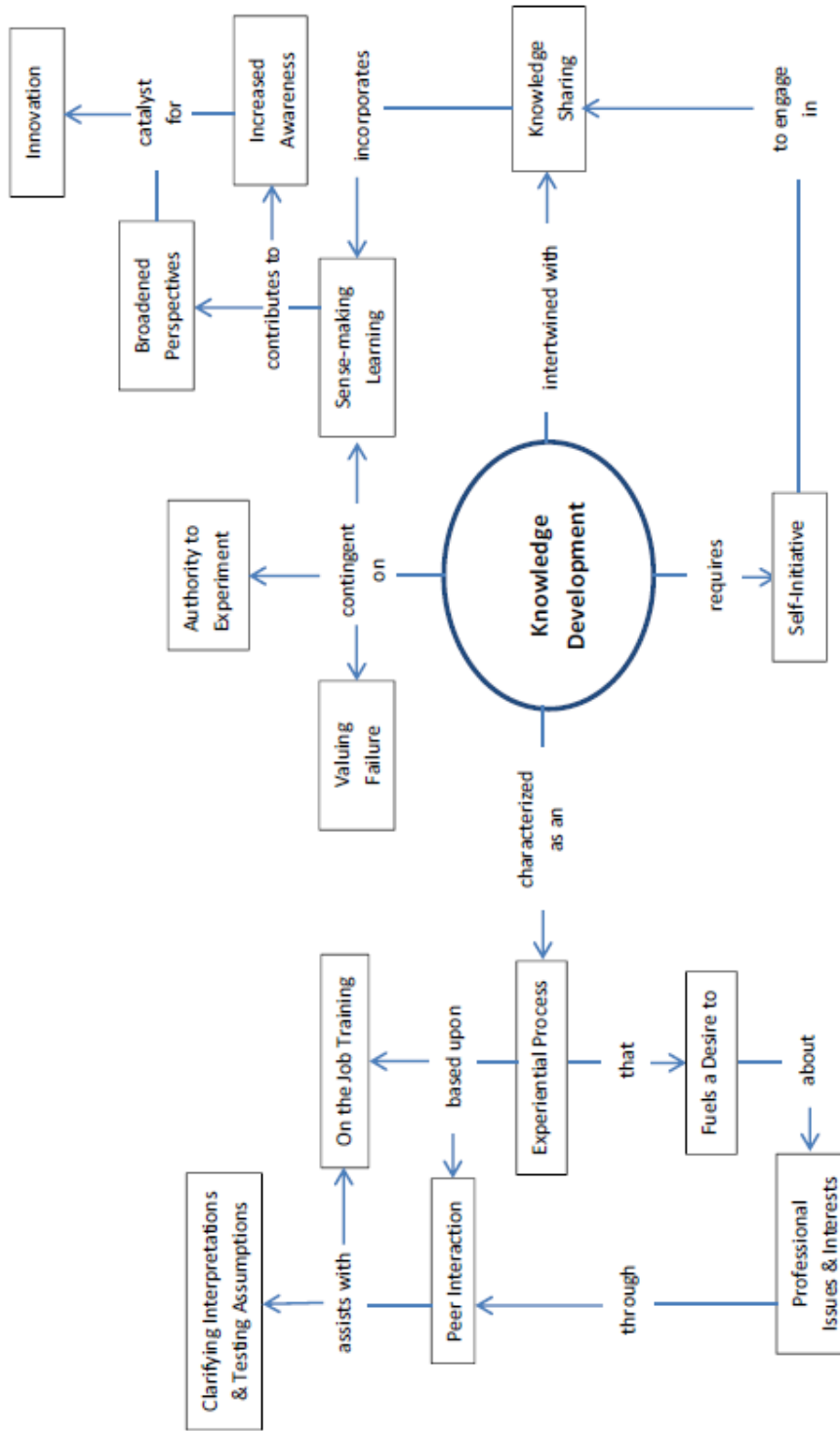
Community of Practice: Community Typology Concept Map



Community of Practice: Practice Typology Concept Map



Knowledge Sharing Typology Concept Map



Knowledge Development Typology Concept Map

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## **Shawn W. Brayton**

### **Education**

University of North Florida, Jacksonville, Florida

Doctorate in Educational Leadership, Anticipated: 2016

Cognate: Higher Education

Dissertation: "Participant Perceptions of Knowledge Sharing in a Higher Education Community of Practice"

University of North Florida, Jacksonville, Florida

Masters of Human Resource Management, 2000

Bachelor of Technology, Computer Information Systems, 1982

Florida Junior College, Jacksonville, Florida

Associate of Arts, Business, 1980

### **Experience**

#### **University of North Florida, Academic Affairs**

**Director for Academic Programs and SACSCOC Liaison (2006 to Present)**

**Assistant Director of Academic Affairs (1997 to 2006)**

Provide oversight and coordination of the new degree program authorization process; review of academic programs; requests for limited access and selective admission status; the online University Catalog; and faculty credentialing processes. Assist in the establishment, pursuit, and monitoring of divisional strategic initiatives and priorities, strategic planning, and continuous improvement processes. Assure compliance of faculty governance of curriculum through the centralized maintenance of the University's degree program inventory and validation of Curriculum, Advising, and Program Planning (CAPP) degree program requirements.

Provide leadership, guidance, and coordination in the formulation, development, implementation, and interpretation of operational and university policies and procedures. Interpret and assure compliance with federal and state statutes, as well as, Board of Governors regulations.

Provide technical coordination, guidance, direction, and supervision in the design, development, and implementation of academic and administrative computer information systems and applications within the university and state. Serve as a security administrator for UNF's Enterprise Resource Planning (ERP) Banner Student and the CAPP advising module. Serve as the University regional accreditation (SACSCOC) liaison. Responsibilities include serving as the primary university-wide resource for accreditation standards, policies, and procedures; serving as the Institutional contact with the Commission on Colleges; and ensuring accreditation compliance through the timely and accurate completion and submission of a variety of accreditation reports, including, but not limited to the reaffirmation compliance certification and Quality Enhancement Plan (QEP), substantive change, institutional profiles, and fifth year compliance and QEP impact reports.

Serve as the FLVC (Florida Virtual Center, formerly FACTS – Florida Academic Counseling and Tracking System) Academic Institutional Manager. Responsible for maintaining compliance with Florida Statute 1007.28, Computer-assisted student advising system. Duties include keeping UNF admission and advising files up-to-date; assuring ability to degree shop at UNF, including the 2+2 degree audit; and submitting annual reports with the Florida Center for Advising and Academic Support.

Serve as an Academic Liaison between UNF and the Board of Governors. Responsibilities include assuring participation of UNF faculty on state-wide discipline committees, compliance with approved common prerequisites, and adherence to all other academic regulations and policies (e.g., New Degree Program Authorization, Program Review).

Serve as a member of university and inter-institutional councils, committees, and governance boards. Represent the university on matters relating to academic issues and informational systems within the university and external agencies.

### **University of North Florida, Computing Services**

#### **Computer Applications Specialist, Computing Services (1995 to 1997)**

Responsibilities included supervising all administrative academic computing related applications. Primary tasks included guiding and coordinating the analysis, design, development and implementation activities of five subordinate positions, and ensure that the activities adhered to departmental and university standards.

#### **Computer Applications Specialist, Computing Services (1989 to 1995)**

Responsible for the coordination of planning, scheduling, implementation, and maintenance of all academic advising, automated computer User ID, Child Development & Research Center, and commencement and transfer evaluation management information systems. Supervised the activities of a Computer Applications Coordinator and a Senior Computer Programmer Analyst, and assisted other data processing personnel in their support of management information systems. Coordinated technical work of project teams in systems planning studies, information needs assessments, and systems analysis. Reviewed and revised approaches to and methodologies of assessing effectiveness in meeting management objectives. Additional roles were the Assistant Security Administrator, Assistant Database Administrator, and MVS Coordinator for all administrative systems residing at the Northeast Regional Data Center which included backup and recovery as well as disk space (DASD) management.

#### **Systems Project Analyst, Computing Services (1985 to 1989)**

Supervisory responsibilities of two programmer analysts; liaison role between Computing Services and University community to ensure data processing needs are met. Assisted in the formulation and planning of policies, standards and requirements for the design, development, and documentation of systems including analysis of data requirements. Developed and maintained security and control methods for systems, including backup and recovery procedures. Provided consultation services to university administrators on data processing needs required for the attainment of institutional goals and objectives. Responsible for analysis and evaluation of end-user and EDP requests to ensure congruence with long range goals of the department.

### **Systems Analyst I, Computing Services (1982 to 1984); Systems Analyst II (1984 to 1985)**

Responsible for providing and maintaining computer services for the offices of Admissions, Registrar, Child Development & Research Center, Library, Financial Aid, and Veteran's Affairs.

## **Accomplishments**

### Academic Affairs - Director for Academic Programs and Accreditation Liaison

- SACSCOC Fifth Year Interim Report and QEP Impact Report 2015—recommendation free.
- *SACSCOC Decennial Reaffirmation of Accreditation 2009*: Provided leadership, guidance, and oversight in the production of the online Compliance Certification and the Quality Enhancement Plan (QEP) which resulted in the University achieving reaffirmation without recommendation.
- *SACS Substantive Change*: Provided leadership, guidance and oversight in the production of the substantive change prospectuses including international dual degree programs.

### Academic Affairs - Assistant Director of Academic Affairs

- *Banner Student Implementation*: Served as the Project Team Leader for the implementation of the ERP (Banner) student and CAPP systems. Responsibilities included building an implementation team comprised of knowledgeable individuals from stakeholder units and leading the team without line authority; coordinating Business Process Analysis (BPA) and consultant-led training events; establishing and managing the implementation of a series of data protocols, including naming conventions, functional documentation, end-user documentation, and an operational calendar; instituting project timeline and assuring compliance with milestones and "Go Live" dates.
- *Advance Term Registration (ATR)*: Served as the chair of the ATR Task Force. Responsible for defining the mechanisms required to successfully provide students with the capability to register for fall semester courses prior to the conclusion of the spring semester. Duties included coordinating the implementation of changes to existing processes such as course scheduling; registration appointments, and fee assessment. Responsibilities expanded to include the design and implementation of an *Online Wait List (OWL)* process used to assist academic units in monitoring course demand.

### Computing Services

- OASIS (Online Academic Student Information System): Designed, developed, and implemented the Online Academic Student Information System (OASIS). OASIS established a mechanism which allowed a computer to process the requirements of a degree against a student's academic record. With academic advising being a vital aspect of a student's successful college experience, OASIS provided advisors and students with essential academic information at a moment's notice. OASIS was implemented in the mid-1980's and remained UNF's primary advising tool until spring 2006 when the Banner CAPP (Curriculum & Academic Program Planning) system replaced it.

## **Committee, Council, and Task Force Responsibilities**

### *Institutional*

- Academic Advising Council (Member: 1983 to 2002)
- Banner CAPP (Curriculum, Advising, and Program Planning) Team (Chair: 2006 to 2011)
- Catalog Steering Committee (Chair: 2009 - 2012)
- Council of Deans (Member: 1999 to Present)
- Faculty Association Academic Program Committee (Ex-officio: 2001 to Present)
- General Education Council (Ex-officio: 1992 to 2003)
- Information Systems Council (Member: 2006 to 2011)
- Institutional Effectiveness Committee (Member: 2006 to Present)
- Matriculation Committee (Member: 1995 to 2005)
- Online Academic Student Information System (OASIS) Steering Committee (Chair: 1999 to 2002)
- Online Academic Student Information System (OASIS) Users Group (Member: 1999 to 2002)
- Program Review Committee (Chair: 2006 to Present)
- Quality Enhancement Plan (QEP) Planning and Development Teams (Member: 2007 to 2009)
- Quality Enhancement Plan (QEP) Management and Assessment Committee (Member: 2009 to Present)
- Student Records Committee (SRC) (Chair: 1999 to Present)
- Student Records Committee (SRC) Academic Chairs Advisory Committee (Chair 2006 to 2010)
- UNF Banner User Group (Member: 2006 to Present)
- UNF Banner User Group – Security (Member: 2010 to Present)
- UNF/FCCJ Joint Admissions Task Force (Co-chair: 1999 to 2002)
- UNF Wings Communication Committee (Member: 2002 to 2005)
- UNF Wings Coordinating Committee (Member: 2002 to 2005)
- UNF Wings Student Steering Committee (Chair: 2002 to 2005)

### *State-wide*

- Adult Degree Completion Task Force (Member: 2011 to present)
- FACTS/FDLC Task Force (Fall 2011)
- Enterprise Resource Planning (ERP) Team Leader for Student/Academic Services Value Chain (Member: 2001 to 2002)
- Florida Academic Counseling and Tracking for Students (FACTS) Academic Expert User Team (Member: 2001 to 2006)
- Florida Academic Counseling and Tracking for Students (FACTS) Future Technologies Expert User Team (Member: 2001 to 2006)
- Florida Academic Counseling and Tracking for Students (FACTS) K-12 Expert User Team (Member: 2001 to 2006)
- Student Academic Support System (SASS) Users Group (Member: 1988 to 1991)
- Student Academic Support System (SASS) Governance Board (Member: 2001 to 2010)
- Student Success Systems Advisory Group (Member: 2014 to Present)
- SUS SACS Assessment (Member: 2014 to Present)

### *International*

- Ellucian (formerly SunGard Higher Education) CAPP (Curriculum, Advising, and Program Planning) User Group (Chair: 2008 to 2014; Member: 2007 to 2008)

### **Publications**

*Cooperation, Communication, Collaboration: The University of North Florida's "Three C's for its Model Academic Advising Program*, Published by the American College Testing (ACT) Program in The Award Winners, October 1990.

### **Presentations**

#### *National*

"Designing a Thorough and Inclusive Selection Process for Strategic Planning, Assessment, and E-Portfolio Software," annual meeting of the Southern Association of Schools and Colleges Commission on Colleges, Orlando, Florida, December 2011 (with Dr. Judith Miller)

"Surviving, Managing, and Nurturing CAPP," webinar for SunGard Higher Education, June 2011 (with Ms. Katharine Brown)

"eCatalog Integration with CAPP and SCACRSE," Annual meeting of SunGard Higher Education Summit, San Francisco, California, April 2010 (with Ms. Judy Sherburne)

"Surviving, Managing, and Nurturing CAPP," Annual meeting of SunGard Higher Education Summit, San Francisco, California, April 2010 (with Ms. Rachel Broderick)

"The Self-Study Process: Beyond Mere Compliance," Annual SACS Conference, Atlanta, Georgia, December 1999 (with Dr. Cheryl Fountain and Ms. Jill Wilson)

"University of North Florida's Online Academic Student Information System," Annual Meeting of the NACADA Southeast Advising Conference, Gulfport, Mississippi, March, 1997 (with Mr. Keith Hufford)

### *State*

Demonstrated the University of North Florida's Online Academic Information System (OASIS) to members of the Florida Senate Ways & Means Committee, PEPC, Higher Education, BOR, and the Governor's Office, November 1996 (with Dr. Cheryl Fountain)

"Computerized *Advising at the University* of North Florida," Annual Meeting of the NACADA Southeast Region Advising Conference, Savannah, Georgia, March, 1994 (with Ms. Valerie Brooks-Clark)

"Computerized *Advising: Management by Demand Not Crisis*," Annual Meeting of the Southeastern Advising Association, Miami, Florida, March 1991 (with Ms. Bettie Adams)

### *Local*

"SACS Compliance Certification: *Overview* and an Introduction to the QEP Process," Fall UNF Board of Trustees Workshop and the Fall UNF Presidential Leadership Retreat, Jacksonville, Florida, October 2007.

"An Annual Analysis of the U.S. News & World Report Rankings and Peer Institutional Comparisons." UNF Board of Trustees and Educational Policy Committee, Jacksonville, Florida, September 2006 to 2012.

## **Honors**

Phi Kappa Phi (2016-Present)

## **Awards**

Finalist for the 1996 Award for Administrative & Professional Employee Excellence for Outstanding Job Performance and Community Service.

Finalist for the 1992 Award for Administrative & Professional Employee Excellence for Outstanding Job Performance and Community Service.

Received National Academic Advising Association (NACADA) 1990 Outstanding Institutional Advising Award, October 1990. The award was bestowed to UNF in recognition of the University's contributions to the improvement of academic advising.