1-1-2009

Exploring knowledge loss in the contact center: Key loss areas, contributing factors, and performance metric implications

Elizabeth M. Herman
Walden University

Walden University

COLLEGE OF MANAGEMENT AND TECHNOLOGY

This is to certify that the doctoral dissertation by

Elizabeth Herman

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

Review Committee
Dr. Howard Schechter, Committee Chairperson,
Applied Management and Decision Sciences Faculty

Dr. Elizabeth Wilson, Committee Member,
Applied Management and Decision Sciences Faculty

Dr. Kurt Schoch, Committee Member,
Applied Management and Decision Sciences Faculty

Chief Academic Officer

Denise DeZolt, Ph.D.

Walden University
2009

ABSTRACT

Exploring Knowledge Loss in the Contact Center:
Key Loss Areas, Contributing Factors, and Performance Metric Implications

by

Elizabeth M. Herman

M.A., Iowa State University, 2000
B.A., University of Iowa, 1996

Dissertation Submitted in Partial Fulfillment
of the Requirements for the Degree of
Doctor of Philosophy
Applied Management and Decision Sciences

Walden University
November 2009

ABSTRACT

Knowledge loss, or organizational forgetting, is often overlooked in knowledge management frameworks, yet it costs organizations money, personnel, efficiency, and customer service. The purpose of this mixed model case study was to understand, using a model of forgetting as the conceptual framework, where and why loss occurred and to examine performance implications. An inbound telephone contact center was studied because of prolific changes in that industry regarding knowledge complexity and performance. The researcher interviewed 20 participants, observed 63 calls, and reviewed 3 months of performance data including average handle time, first call resolution percentages, and time spent on after call work. Key research questions addressed areas of loss, contributing factors, and operational impacts. Using theme-based coding and chi-square goodness of fit analyses for the qualitative data coupled with descriptive analyses and frequency distributions for the quantitative data, results showed that loss occurred because of attitudinal resistance to change, unlearning, and lack of organizational standards. Average handle time and first call resolution metrics were negatively impacted. Contributing factors included culture, leadership support, and limited follow-through from lessons learned. Recommendations include establishing a formal disposal process to remove outdated knowledge from knowledge management tools and establishing incentives to encourage employees to contribute knowledge, which can lead to higher staff engagement of those tools and improved customer service. The social change significance is that addressing knowledge loss can promote fiscal sustainability and revenue generation, thereby preventing layoffs or organizational closures.

Exploring Knowledge Loss in the Contact Center: Key Loss Areas, Contributing Factors, and Performance Metric Implications

by

Elizabeth M. Herman

M.A., Iowa State University, 2000
B.A., University of Iowa, 1996

Dissertation Submitted in Partial Fulfillment
of the Requirements for the Degree of
Doctor of Philosophy
Applied Management and Decision Sciences

Walden University
November 2009

ProQuest LLC
789 East Eisenhower Parkway
P.O. Box 1346
Ann Arbor, MI 48106-1346

DEDICATION

This dissertation is lovingly dedicated in memory of my parents, Curtis Elmer Herman and Mollie Elizabeth Wade Herman.

“Don't ever dare to take your college as a matter of course—because, like democracy and freedom, many people you'll never know have broken their hearts to get it for you” (Miller, 1939, as cited in Kerber, 1997, p. 250).

ACKNOWLEDGMENTS

Throughout this journey, I was supported by a distinguished committee that included Dr. Howard B. Schechter, Dr. Kurt Schoch, and Dr. Elizabeth Wilson, and I wish to acknowledge their genuine interest in my research, their wise guidance, and their words of encouragement.

This research would not be possible without a case to study; therefore, I express my sincere gratitude to the case study sponsor for her gracious willingness to participate and to the case study participants for their candor. I also wish to acknowledge Dr. Pablo Martin de Holan and Dr. Douglas Nelson for their generosity in allowing me to incorporate their work into my study.

Much appreciation is given to Ms. Carol Erban and Ms. Michele Bond, two managers who supported my educational pursuits while I worked for them and helped me accomplish not only this academic goal, but many goals in my professional career. Appreciation is also given to Ms. Shandee Schuchmann for her transcription work and to Mr. Brian Dye for his statistical analysis support.

There were so many times when I prayed for the strength to finish, whether it was a thought, a sentence, a statistics course, a knowledge area module, or, at long last, the dissertation. Thank you to the Blessed Mother Mary and the Lord Jesus Christ for answering those prayers.

Ultimately, love and laughter carried me through; therefore, I acknowledge the best support system a person could ever have: my brothers and sisters, my nephews and

nieces, my beloved, my best friend, and my breakfast crew. You can call me Dr. Liz now. I did it!

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1: INTRODUCTION TO THE STUDY

Introduction

Particular attention has been given to knowledge generation, capture, and storage in knowledge management frameworks (Argote, McEvily, & Reagans, 2003). This attention and focus has been replicated by organizations using these frameworks to establish knowledge management practices. Organizations, therefore, have focused knowledge management efforts on sharing and exchanging explicit and tacit knowledge to promote knowledge generation and capture and have also focused knowledge management efforts on technology tools that act as storage repositories (Davenport & Prusak, 2000; Nonaka & Takeuchi, 1995). This zeal for capture and storage coupled with almost limitless storage capacities has led to what Baker (2006) called the *infoglut*. The infoglut is defined as "receiving or gathering an indigestible or incomprehensible amount of amount of information all at once" (*Dictionary.com's 21st Century Lexicon*, 2009).

The infoglut is negatively impacting organizations because they are overwhelmed with information and data with inadequate mechanisms for access, assessing content accuracy, codification, and search functionalities (Pfeiffer, 2006; Saggese, 2004). Organizations are at risk of becoming less efficient because employees are spending too much time attempting to find information. A more serious risk is that there does not seem to be a knowledge management framework for organizations to adopt that promotes purposeful knowledge discard. Without one, the infoglut will continue to choke organizations via what they have worked so diligently to capture and store (Baker, 2006).

Researchers have an opportunity to develop frameworks where knowledge discard is an equal to generation, capture, and storage. Organizations can benefit from understanding how to approach knowledge discard so that the right information and data are routinely disposed, or at the very least archived, in order to maintain a manageable amount of data and to ensure currency (Pfeiffer, 2006). Before a more comprehensive framework can be established or a plan for discard can be put into action, however, both researchers and organizations must step back and gain awareness about a parallel but nonetheless impactful concept, *knowledge loss* (Martin de Holan, Phillips, & Lawrence, 2004).

Similar to knowledge discard, knowledge loss has been largely overlooked in the academic and management arenas. Yet it has significant potential to impact organizational performance, which researchers have demonstrated on a limited scale (Benkard, 2000; Darr, Argote, & Epple, 1995; Ibrahim, 2005; Martin de Holan & Phillips, 2004; Martin de Holan et al., 2004; Thompson, 2007). The body of research that does exist regarding knowledge loss is examined more closely in chapter 2.

Some of the factors attributed to knowledge loss include accidental forgetting, purposeful resistance to new knowledge, lack of leadership support or reinforcement, employee turnover, and disuse. What is worthy of further research is how and in what ways these factors promote knowledge loss and how they contribute to individual and organizational capabilities to operate successfully (Martin de Holan et al., 2004). Moreover, because the literature is thin with regard to this concept, it is valuable to investigate it in a type of organization not previously studied.

Statement of the Problem

The problem addressed in this study concerned the low awareness that organizations have of how knowledge loss occurs in their environment, how it impacts their performance, and how its omission in the routine practice of knowledge management by the organization creates knowledge gaps. Research conducted in both the manufacturing and hospitality industries revealed significant relationships between knowledge loss and organizational performance (Benkard, 2000; Darr et al., 1995; Martin de Holan & Phillips, 2004; Martin de Holan et al., 2004; Thompson, 2007). Martin de Holan and Phillips, for example, identified through case study research that organizational performance was impacted by organizational forgetting across knowledge workers in the Cuban tourism hospitality sector. Furthermore, this organizational forgetting, or knowledge loss, was often overlooked by organizations as a critical component of a comprehensive knowledge management plan.

Although previous studies focused on the manufacturing and hospitality industries, the number of organizations was limited and the concept had not been explored through the lens of an inbound telephone contact center, which is a highly dynamic and knowledge intensive environment. The global contact center industry is currently undergoing prolific changes regarding knowledge complexity and performance measurement.

Background to the Study

Knowledge loss, or forgetting, is a fact of life. People forget things. Most of the time, knowledge loss is accidental, but some of the time, it is purposeful. People might

choose not to accept new knowledge and, through this choice, forget the new knowledge because of disuse or because of the very act of subverting or dismissing the knowledge (Martin de Holan et al., 2004). In personal situations, knowledge loss can cost people an extra trip to the grocery store, a missed birthday, or a late fee. In work situations, knowledge loss can accumulate so that it impacts an organization's overall knowledge capabilities (Martin de Holan et al.). Despite studies that demonstrated a clear relationship between knowledge loss and organizational performance, knowledge management frameworks fail to incorporate knowledge loss as a key component or dimension of the framework (Argote et al., 2003; Hsu & Shen, 2005).

Organizational performance is watched by contact centers (Downing, 2004; Hillmer, Hillmer, & McRoberts, 2004; Kinnie, Hutchinson, & Purcell, 2000). The entire environment and culture of the contact center revolves around organizational performance, metrics, and key performance indicators (Kinnie et al., 2000). Indeed, in contact center work, organizational performance is often measured from the ground up. That is, the performance of the contact center as a whole is based on the aggregated performance of its agents and their accuracy, consistency, adherence to process and local protocol, and average handle time (Hillmer et al., 2004). For all of these indicators, knowledge plays a key role. If knowledge is lost or new knowledge is not assimilated, accuracy, consistency, adherence, and handle time can be negatively impacted (Downing, 2004). Multiplication of these issues can impact overall customer service and that is an egregious situation for an industry whose entire focus is customer service (Hillmer et al., 2004).

Contact centers offer a prime setting for research that moves well beyond the quantitative data available for study, particularly when one is studying a knowledge management-related concept like knowledge loss. This is because the contact center is a knowledge intensive firm. Higgins (2006) defined a knowledge intensive firm as one where knowledge is fundamental to economic success. Also, according to Higgins, "The knowledge intensive firm is both important economically and a source of great interest academically; it operates in high dynamic environments, which require the firm to construct new knowledge in order to respond to changes within the operating environment" (p. 189). Changing customer needs, technology, and workforce talent are examples of forces that drive change in a contact center's operating environment and require new knowledge to be constructed.

The time to study contact centers is also ideal because of a growing knowledge crisis that is impacting these organizations. The Customer Contact Council (2007) noted that agents are expected to handle complex calls just as easily and as efficiently as they handle simple calls. "This shift toward complexity is driven not only by a migration of 'easier' contacts to self-service but also by an increase in customer expectations" (p. 4, emphasis in original). According to the Council, this shift requires significant work for the contact center industry.

While the Customer Contact Council (2007) understood the role that knowledge management can play in the success of a contact center environment, it fails to address knowledge loss in its knowledge management process. Generation, refinement, feedback, and articulation of knowledge need are included, but knowledge loss is not, nor is it

mentioned as an issue impacting organizational performance. Including knowledge loss as an inherent part of the knowledge management cycle can positively impact the success of an organization engaged in knowledge management practices.

Purpose of the Study

The purpose of this mixed model case study was to understand where and why loss occurs and to examine implications on performance metrics, which may help create better performance outcomes within organizations engaged in the practice of knowledge management. Leybourne (2006) stated that "what is needed is the creation and articulation of knowledge that can assist practitioners within organizations in the satisfactory execution of their duties" (p. 13). In addition, the purpose of this study was to contribute to literature related to knowledge loss, knowledge management, and contact center work by offering research directly related to those areas.

Research Questions

The primary research question asked about knowledge loss in the contact center and the operational impacts. More specifically, three subquestions associated with this primary question were:

1. Where did knowledge loss occur at the individual and/or organizational level within the chosen organization?

2. What were the contributing factors to knowledge loss?

3. How did knowledge loss influence the contact center's productivity and quality metrics?

Conceptual Framework

The qualitative case study that was completed by Martin de Holan et al. (2004), as well as the researcher's experience with knowledge loss as a knowledge manager and practitioner in a contact center environment, were the stimuli for this study. Martin de Holan et al. produced a model of forgetting that served as the conceptual framework for this study. Figure 1 illustrates the mode of forgetting matrix.

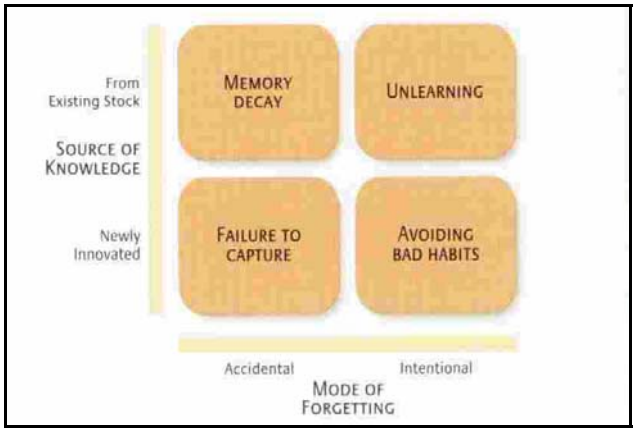

Figure 1. Mode of forgetting matrix. From "Managing Organizational Forgetting," by Martin de Holan, Phillips, and Lawrence, 2004, *MIT Sloan Management Review*, *45*(2), p. 47. Copyright 2004 by MIT Sloan Management Review. Reprinted with permission.

Through their research, Martin de Holan et al. (2004) identified that forgetting, or knowledge loss, can be categorized along two dimensions, accidental versus intentional forgetting and new knowledge versus old knowledge. Within each of these dimensions, there are specific processes that "describe the range of organizational forgetting that can occur" (p. 47). These specific processes are described in more detail in chapter 2. To this researcher's knowledge, this matrix has not been used in any other study of knowledge loss and organizational performance. Applying this framework to the present study

demonstrated the mode of forgetting and the source of knowledge as valid dimensions of knowledge loss. It also served to pinpoint specific areas of attention for the contact center organization and its knowledge management practices.

Definitions

Agent: refers to an individual responsible for handling the inbound and outbound interactions in a contact center; also known as a customer service representative (CSR).

Contact center: refers to an organization responsible for inbound and outbound customer service interactions that may be phone based, web based (web chat, e-mail), or paper-based (written correspondence); also known as a call center.

Culture: "a set of attitudes, values, assumptions, and traditions that directly shape an environment" (*Merriam-Webster*, 2008).

Dynamic environment: a setting that requires organizations to "construct new knowledge in order to respond to changes within the operating environment" (Higgins, 2006, p. 190).

Knowledge loss: refers to a concept or phenomenon where knowledge is accidentally or purposefully lost.

Mixed methods research: "the class of research where the researcher mixes or combines quantitative and qualitative research techniques, methods, approaches, concepts, or language in a single study" (Johnson & Onwuegbuzie, 2004, p. 17).

Mixed model: "*mixed-model* (mixing qualitative and quantitative approaches within or across the *stages* of the research process) [as opposed to] *mixed-method* (the

inclusion of a quantitative *phase* and a qualitative *phase* in an overall research study)" (Johnson & Onwuegbuzie, 2004, p. 20, emphasis in original).

Organizational performance: the "interaction between *organizational knowledge* (a function of individual training, knowledge and information processing capabilities) and *organizational structure* applied to the work of the organization" (Carley, 2002, as cited in Merrill-Matzner, 2006, p. 11, emphasis in original).

Performance metrics: "any work performance data that can be quantified" (Downing, 2004, p. 171).

Assumptions

1. Organizational knowledge is inherently bound to the organization's culture.

2. Knowledge loss in an organization occurs at the individual level, the group or team level, and the organizational level.

3. Explicit engagement of knowledge management practices by the contact center that participated in this case study were not germane to the study although there was an understanding that both explicit and tacit knowledge management practices were already in use.

4. The contact center in this case study may not be explicitly representative of any other contact centers inside or outside of the United States, but it served as a general representation of a contact center organization.

5. The case study sponsor understood the access to the organization, its people, and its data that was necessary for the researcher and made that access available.

Limitations of the Study

This study explored a contact center organization and the phenomenon of knowledge loss: where it existed, what factors contributed to it, and how performance metrics were influenced because of it. Because contact centers are often thought of as knowledge and learning organizations, it must be recognized that they are continually changing and that this study merely took a snapshot at one particular point in time and all research results are constrained to that particular snapshot and to that particular point in time. For example, even though Senge (2006) used the term *learning organization*, he said that organizations cannot proclaim that they have achieved the goal of being a learning organization because it is a continual process. In essence, organization members practice the art of being a learning organization, but there is no end point, the organization is always learning. Because only one contact center was under study, the research offers a generalized view of the contact center industry at large.

In any organization, knowledge loss is occurring (Kransdorff, 1999). Thus, by focusing only on one contact center organization, the research presents a limited view of how knowledge loss impacts organizational performance at large. Knowledge, moreover, has a tacit component that is more difficult to extract and analyze than explicit knowledge (Davenport & Prusak, 2000). As Carmichael (2007) cautioned: "Intellectual capacity or the talents of our knowledge workers are sometimes not easily identifiable on the surface, and to the naked eye, may be disguised, masked, or hidden" (p. 27). There is, therefore, tacit knowledge held by the individual and the organization that might not have been uncovered through this research.

A mixed model case study design was used in this research. Weaknesses of mixed methods research include data integration issues and the lack of guidance on how to resolve discrepancies in the data. Also, the quantitative data collected for this study were used as a point of triangulation for the qualitative data. As such, the data were not empirically tested against a hypothesis or null hypothesis. Weaknesses of case study research include generalization issues, bias due to the researcher's proximity to the participants, and time constraints to complete a thorough case study. The researcher entered the study with a full awareness of those weaknesses. Where appropriate, the researcher relied on the guidelines of Yin (2003) and Merriam (1998) to mitigate the weaknesses in the case study approach and relied on the guidelines of Creswell and Plano Clark (2007) and Johnson and Onwuegbuzie (2004) to mitigate the weaknesses of mixed methods research. More information about the research design is included in chapter 3.

Scope and Delimitations

The scope of the study involved a contact center in the midwestern United States whose employees were onsite and not working in an outsourced or offshore situation. Information was not collected from any other organizations or entities. Only those personnel directly related to the contact center and its work efforts were interviewed during field research. Those individuals included managerial staff, systems support technicians, knowledge team members, and the contact center agents. Any documentation or technology tools reviewed or observed were those that were directly used in the day-to-day operations of the contact center. Any quantitative data collected were directly related to this contact center.

Although turnover has been found to be a significant factor that contributes to knowledge loss, and Ibrahim (2005) presented a noteworthy study about knowledge loss and discontinuous membership and its affect in the construction industry, this study focused on knowledge loss that occurred with agents and organizational members with more permanent, continuous tenure. That is, this research was more focused on knowledge loss due to a changing environment with workers that persisted in the organization for more than 12 months. One can easily recognize that attrition and retirement impact knowledge loss, but this study attempted to fill a niche of knowledge loss and organizational forgetting that has implications for those in the field of knowledge management, learning management, and organizational change dealing with current employees and current organizational forgetting.

This study was limited to knowledge loss. During the course of research, observations may have been made about an organization's ability to generate knowledge, but knowledge generation was not the concept under study.

The researcher is a knowledge manager in a contact center environment, which may be perceived as a source of bias. In an attempt to mitigate bias, the researcher did not select a contact center that was in her organization or under her management purview in any way. Moreover, the researcher did not know the case study sponsor on either a personal or professional level before initiating the study. All precautions were taken to limit bias and properly present the results of the research.

Significance and Social Change Implications

Previous studies identified that knowledge loss impacts organizational performance (Benkard, 2000; Cha, 2007; Darr et al., 1995; Ibrahim, 2005; Martin de Holan & Phillips, 2004; Martin de Holan et al., 2004; Thompson, 2007). Building upon those studies, this study explored the phenomenon of knowledge loss, where it existed and why, what factors contributed to it, and how performance metrics were influenced because of it, in the highly dynamic, knowledge intensive environment of the contact center organization. This appeared to be the first study to apply the mode of forgetting matrix (Martin de Holan et al., 2004) to a contact center environment. This study contributes to the ongoing dialogue about the phenomenon of knowledge loss, what dimensions of loss and forgetting are prevalent, and organizational performance implications, thus bridging a gap in the literature about knowledge loss.

The social change significance of this research is that it increases knowledge loss awareness, pinpoints specific areas of loss, and illustrates knowledge loss's rightful place in knowledge management models for better performance outcomes. Specifically, the results of the study demonstrate that more awareness must be given to knowledge loss because it has direct implications on contact center organizational performance and cost per call. Moreover, knowledge loss at the organizational level because of lack of standardization and failure to learn from experience puts fiscal sustainability and the ability to generate new revenue at risk, which can lead to social change issues of downsizings, layoffs, and organizational closures.

Purposeful knowledge loss must be embedded into knowledge management frameworks and institutionalized as part of everyday knowledge and learning management practice. Failure to incorporate purposeful knowledge loss lengthens time to customer resolution because employees are unable to quickly locate relevant knowledge amid outdated knowledge and increases the risk that employees will abandon knowledge management systems due to obsolescence, thereby significantly reducing any return on investment of these systems, which are expensive to implement.

The findings can lead to meaningful discussion about the place of knowledge loss in knowledge management models and how to manage accidental or purposeful forgetting using a combination of culture, human capital, and technology. The findings also provide some illumination on the ways to strategically structure an organization to minimize forgetting and call into question whether attitudinal resistance to change may be linked to the types of people employed in contact center positions and the pay that is provided in said positions to transfer knowledge that is becoming increasingly more complex, which is worthy of further study. For contact center organizations, understanding knowledge loss and ways to mitigate it can influence organizational performance and ensure that those working on the front lines with the customers are building brand loyalty through exceptional customer service that is directly supported by knowledge availability and the ability to resolve the initial call. Minimally, a basic understanding of knowledge loss and unlearning can benefit those contact center organizations undergoing a shift from production-based to quality-based metrics, which are discussed in greater detail in chapter 2.

Chapter Summary

Knowledge loss and its impact on organizational performance has been verified in the literature; however, the research is minimal. This study adds to the body of research and uses as its case an organization that had not been studied before with respect to knowledge loss, the contact center.

Chapter 1 introduced the study and contained the problem statement, which concerned the low awareness that organizations have of how knowledge loss occurs in their environment, how it impacts their performance, and how its omission in the routine practice of knowledge management by the organization creates knowledge gaps. The chapter included the primary research question that asked about knowledge loss in the contact center and the operational impacts. It also included three subquestions associated with the primary question that asked where knowledge loss occurred at the individual and/or organizational level, what the contributing factors were, and how it influenced the contact center's productivity and quality metrics. The limitations that were discussed involved weaknesses of both mixed methods and case study research, the limited view of how knowledge loss impacts organizational performance at large when only one organization is studied, and the difficulty with uncovering tacit knowledge. The scope of the study, which involved a contact center in the midwestern United States, was outlined. Delimitations included a focus on knowledge loss in individuals with continuous tenure in the organization and not on knowledge loss related solely to attrition. The researcher made known that she is currently a manager in a contact center environment. To mitigate perceived bias, the researcher did not select her own organization as the case under study.

Chapter 2 discusses the literature review, which speaks to the literature gap, and explores in detail the concept of knowledge loss and its relationship with organizational performance, culture, and change, as well as with knowledge and learning management. Chapter 3 describes the research methodologies that were used to address the problem statement and answer the research questions found in chapter 1. Chapter 4 contains the results of the study based on analysis of the qualitative and quantitative data collected from the field research, while chapter 5 includes a summary of the study, the conclusions that were drawn, recommendations for further research, and implications for social change.

CHAPTER 2: LITERATURE REVIEW

Introduction

Organizational knowledge loss and its impact on organizational performance has been previously studied. From pizza makers and hotel staff to ship and airplane builders, other researchers have examined how knowledge loss influences franchise success, customer service in resort areas, and construction of large-scale transportation equipment (Benkard, 2000; Darr et al., 1995; Martin de Holan & Phillips, 2004; Martin de Holan et al., 2004; Thompson, 2007). The frequency with which it has been studied is slowly increasing and the way in which it has been studied is slowly expanding, but ultimately the topic remains scarce in the literature. To study knowledge loss and its impact on organizational performance, it was necessary to broaden the review of the literature to encompass knowledge and learning management, organizational culture and change, and the current state of the organization and its environment. While the organization and its environment are viewed from a macroscopic perspective, a specific type of organization and its environment, which is the contact center, is viewed from a microscopic perspective.

The literature review begins, then, with an examination of knowledge loss and how that term has been situated in the literature to date. Next, the concepts of knowledge and learning management are explored with respect to the theories and themes on knowledge loss. Literature related to organizational culture and change is also subsequently incorporated because of its natural intimacy and interconnectedness with knowledge and learning management. Throughout the review, attention is given to

methodologies used to investigate the issue of knowledge loss and organizational performance. Lastly, the current state of the organization, and more specifically the contact center organization, is investigated and addressed.

The strategy used for canvassing the literature involved searching Walden University's Business Source Premiere online database for information related to the topic. Articles were collected and analyzed from 32 peer reviewed journals. The strategy also included searching Proquest for related, relevant dissertations, which yielded six results (Arnett, 2007; Carmichael, 2000; Cha, 2007; Ibrahim, 2005; Merrill-Matzner, 2006; Nelson, 2007). Primary key word searches included *knowledge loss, organizational forgetting, unlearning, call center* (as well as *call centre),* and *organizational performance*. Secondary key word searches, which were often cross-referenced with the primary key word searches, included *knowledge retention, organizational memory,* and *knowledge depreciation*. Research is an iterative process so the collection of related literature continued throughout the dissertation process to ensure a comprehensive review. This continuous harvesting of the literature resulted in six additional articles that included information applicable to the case under study (Braff & DeVine, 2009; Cross, Barry, & Garavan, 2008; Kuhn & Jackson, 2008; Rowold, Hochholdinger, & Schilling, 2008; Russell, 2007; Terry, 2007). Of those articles, four included further examples of case study research used to examine issues in the contact center environment (Cross et al.; Kuhn & Jackson; Rowold et al.; Russell).

Focus was given to those articles that described knowledge loss issues and its impact on organizational performance as a result of human error, knowledge generation,

knowledge transmission, training, or lack thereof. Articles that focused solely on the ways in which people learn or the ways in which knowledge was or was not generated or articles that discussed training efficacy and did not deal in any way with specific knowledge loss ramifications were not selected as key source materials because, as noted in chapter 1, they were outside the scope of this study.

Because a literature gap does exist with regard to knowledge loss, it was important to review not only academic journals, but also trade journals and magazines to enable the broadest view of the topic in the literature landscape. In addition, it was important to consult other information sources. These additional sources included organizations such as the Customer Contact Council, the International Customer Management Institute, and the Call and Contact Centre Association. Previous study on knowledge management, learning organizations, and organizational change from seminal authors like Lewin (1948/1951/1997), Nonaka and Takeuchi (1995), Schein (2004), and Senge (2006) rounded out the body of research. Chapter 3 contains a literature review of the selected research methodology and design.

Knowledge Loss

People have been thinking about knowledge loss, forgetfulness, and the role of memory for a long time. Plato likened memory to birds in an aviary to describe loss (Shiu & Chan, 2006). In this metaphor, as more birds are added to the aviary, it becomes increasingly difficult to find specific birds. All the birds, however, remain in the aviary. According to Shiu and Chan, “This metaphor implies that forgetting is due to failure to retrieve, rather than memory being erased” (p. 193). Whatever implications are attributed

to forgetfulness or memory loss, it remains a human condition that is still being thought about, analyzed, and dissected today (Thompson, 2007). It not only impacts people in their personal lives, but also impacts people in their work lives related to individual and organizational performance (Martin de Holan & Phillips, 2004; Martin de Holan et al., 2004).

Although the study of knowledge loss and its impact on organizational performance can be found in the literature, the number of recent studies is limited and the studies themselves split distinctly between customer service/strategic management theory (Darr et al., 1995; Martin de Holan & Phillips, 2004; Martin de Holan et al., 2004) and industrial production/economic theory (Benkard, 2000; Thompson, 2007). Martin de Holan and Phillips sparked interest in the area of knowledge loss for this researcher. Using Cuban hotel chains engaged in international alliances as their field of study, Martin de Holan and Phillips took a qualitative case study approach to exploring knowledge transfer within these alliances. They identified a gap in the research and literature surrounding organizational learning and organizational knowledge management. Although significant attention has been given to learning and knowledge access and acquisition, limited attention has been given to knowledge loss, or what the authors termed *organizational forgetting*. This is still the case today, as only one additional peer-reviewed article by Thompson about this topic was found in the 3 years since Martin de Holan and Phillips published; in this article, Thompson revisited a case study of the World War II Liberty shipbuilding program.

Almost a decade before Martin de Holan and Phillips's (2004) article, Darr et al. (1995) also studied knowledge loss and its impact on organizational performance, but in a different service industry and with different terminology. They used *knowledge depreciation* to describe the impact on organizational performance in 36 pizza stores in Pennsylvania. Because the stores were owned by different people, the authors wanted to know if staff from pizza stores owned by one franchisee would learn from the experiences of staff from other stores owned by other franchisees. Similar to Martin de Holan and Phillips, this focus on knowledge transfer led naturally to a keener focus on knowledge loss. The authors hypothesized that "knowledge acquired through learning by doing may not persist indefinitely. Rather, knowledge may be lost through individual forgetting, misplaced manuals, personnel turnover and the like" (Darr et al., 1995, p. 1753).

In a quantitative study that analyzed 18 months worth of data from the stores, Darr et al. (1995) found that knowledge depreciation was substantial. Only one half of what was known at the beginning of the month remained at month's end. "In fact, without continuing production to replenish the stock of knowledge, virtually all production knowledge would be lost by mid-year" (p. 1758). Like Martin de Holan and Phillips (2004), who noted that the problem of knowledge loss was "driven by turnover of critical personnel and their inability or unwillingness to create collective knowledge" (p. 1610), Darr et al. attributed much of the knowledge loss they found in the pizza stores to high staff turnover. According to the authors, turnover of line staff in the pizza stores

averaged 300% per year. Compounding the issue, the turnover rate in managerial staff averaged 50% per year.

Staff attrition and its impact on knowledge loss is one component of the topic that is well documented in the literature, particularly in reference to staff attrition due to the impending retirements of the baby boomers and corporate downsizing (Kransdorff, 1999; Lesser & Prusak, 2001). Kransdorff stated, "Knowledge loss from staff turnover is now the single biggest source of know-how leakage out of companies" and the labor market is "now replacing almost the entire employee base of most organizations every five years" (p. 13). What remains a gap in the literature, however, is how knowledge loss impacts organizational performance for those employees with ongoing, continuous tenure. As Thompson (2007, citing Anderlohr, 1969) noted, "Although numerous explanations have been given for why organizations appear to forget in the face of interruptions to production, few have been given for continuous depreciation of knowledge" (p. 908). This gap was also identified by Benkard (2000), who stated that companies have some control over organizational forgetting that seems to be separate and distinct from forgetting caused by attrition. Regarding the larger gap on the topic of knowledge loss, Benkard mentioned that "the organizational forgetting hypothesis suggests that organizational human capital depreciates, an assumption often maintained in other lines of the literature but thinly studied empirically" (p. 1035).

The impetus for closing this gap can be found in the strategic implications to the organization. Darr et al. (1995) and Martin de Holan et al. (2004) both called attention to these strategic implications of knowledge loss. Martin de Holan et al. said that the

"involuntary loss of organizational knowledge is costing companies millions of dollars every year" (p. 45). Moreover, the authors noted that companies cannot transform themselves if they are not able to forget old knowledge when new knowledge is generated. Darr et al. noted broad impacts to competitive strategy, productivity, retention, and downsizing. The authors also cautioned that knowledge is sometimes lost before it can be transferred. "In the extreme very rapid depreciation may eliminate a stock of knowledge before it can be transferred. Even less extreme depreciation rates may reduce a stock of knowledge sufficiently to restrict transfer" (p. 1753). Organizations risk losing knowledge in both the capture and transfer stages.

Knowledge transfer is further examined in the studies of Benkard (2000) and Thompson (2007), although these studies are somewhat different than the studies completed by Darr et al. (1995), Martin de Holan and Phillips (2004), and Martin de Holan et al. (2004). Rather than studying the service industry, Benkard and Thompson focused on labor production in the areas of airplane building and ship building. In addition, both initiated their research by exploring and building upon prior research about organizational learning curves and learning by doing. What was noticed in the prior research and validated empirically by Benkard and Thompson using more comprehensive data sets was that production costs did not decrease in proportion to the decrease in the learning curve. Both authors, therefore, found support for knowledge loss and its impact on organizational performance.

Thompson's (2007) quantitative analysis revealed that organizational forgetting did occur with the Liberty shipbuilders although not to the extent previously reported in

similar industrial settings. Using new data on unit labor requirements, Thompson was able to recalculate the rate of knowledge depreciation. According to Thompson, knowledge depreciation, which was the term he used when discussing results, was between 3.6 and 5.7% per month (p. 917). What had previously been reported was a number closer to 25% per month. Regarding production and the strategic implication to the organization, Thompson stated that the evidence "suggests that knowledge depreciation can be economically significant, although it varies widely across cases" (p. 908). What is noticeable about Thompson's study is that staff attrition was not found to impact organizational forgetting. "Attempts to relate forgetting to labor turnover were unsuccessful. To the contrary, the inclusion of labor turnover data eliminates entirely any evidence of organizational forgetting" (p. 909).

Benkard (2000), conversely, did find a correlation between turnover and organizational forgetting. In the airplane industry, however, there was a regimented structure and process around job placement rights, which impacted turnover. As Benkard explained, "Whenever employment changes, there is a domino effect throughout the company that has been known to affect as many as ten positions for just one job opening. . .under 'bumping', turnover rates are high, which leads to greater organizational forgetting" (p. 1037, emphasis in original). This meant that employees with higher seniority in the company could displace employees with lower seniority. This was called bumping and it created a chain effect as higher seniority employees displaced lower seniority employees until the employee with the lowest seniority had no one to displace and was subsequently unemployed. While turnover had an obvious impact on

organizational forgetting in this study, Benkard suggested that decreasing production rates also impacted organizational forgetting. If the quantity of airplanes being produced decreased, some organizational knowledge was lost because workers were not performing tasks as frequently. As a way to minimize the impact of this, airplane manufacturers attempted to maintain consistent assembly processes throughout the production cycle even if production volume fluctuated. While this continuity may be well served in an industrial, production-based setting, its efficacy in a highly dynamic customer service environment like the contact center may not be possible. With regard to contact centers and the close proximity between employee and customer and the balance between the two that must be maintained, Kinnie et al. (2000) noted, "The immediacy of the production process and its highly personal characteristics intensify and counterpose these conflicting demands in a way in which is often absent, camouflaged, or kept at arms length in organizations outside the service sector" (p. 980).

Benkard (2000) summarized the factors impacting organizational forgetting as "geographic turnover, company turnover, literal forgetting, and non reinforcement of routine" (p. 1042). Literal forgetting and nonreinforcement of routine are two phenomena that were researched in this study using the mode of forgetting matrix (Martin de Holan et al., 2004). Benkard also summarized the commonalties between the studies that had been previously completed related to knowledge loss and organizational performance. Those commonalities included labor intensive production, significant attention to learning at the individual level, and high turnover. Contact center organizations, which are discussed more in detail later in this chapter, have these issues in common as well;

therefore, Benkard's hypothesis that these issues can be used to evaluate the impact of organizational forgetting on an industry were investigated in this study.

Ibrahim's (2005) mixed method research focused on the construction industry not from a labor perspective, but from a knowledge flow perspective. What Ibrahim discovered when studying knowledge loss remains true today. There is an "abundance of literature on knowledge creation, knowledge storage, and knowledge retrieval" (p. 91), but literature on knowledge transfer and knowledge loss is still sparse.

Ibrahim focused on the initial architectural design and engineering phases of major construction projects within one company and identified that discontinuous membership in an organization facilitated knowledge loss. That is, knowledge shared with a principal during the architectural design component of a project was not transferred to other principals (i.e., the actual builder or project manager) in related phases. He talked of a situation where a playground was required to be built with the construction of new housing complexes. This information was relayed contractually at the outset of the project, but the playground was not built. The company was fined for this oversight. This failure to transfer knowledge, which ultimately led to forgetting, had a direct financial impact on the company. In his summary, Ibrahim stated that these issues of forgetting seemed more problematic for organizations that were dynamic. As indicated earlier, the contact center environment is dynamic and as such could experience similar fallout from cases of knowledge loss.

Individual Versus Organizational Forgetting

Several authors distinguish between individual forgetting and organizational forgetting when discussing not only knowledge loss but also knowledge and learning management (Allen, 2001; Benkard, 2000; Darr et al. 1995; Fedor, Ghosh, Caldwell, Maurer, & Singhal, 2003; Fiol & Lyles, 1985; Higgins, 2006; Hsu & Shen, 2005; Treleaven & Sykes, 2005). Fiol and Lyles argued that "some agreement exists that distinctions must be made between individual and organizational learning. Though individual learning is important to organizations, organizational learning is not simply the sum of each member's learning" (p. 804). This systems view of learning is supported by Allen, Darr et al., Treleaven and Sykes, and Fedor et al. Personal knowledge and organizational knowledge, however, cannot necessarily be separated as one impacts the other. Carmichael (2000) noted this exception and cited Amidon (1997) as stressing that "every individual holds knowledge within the organization" (p. 27). As another example, Higgins noted that the knowledge intensive firm "relies not only on the formal knowledge of its agents, but draws heavily on the interaction between agents to create a knowledge capability" for the organization (p.193).

Although the individual and the organization are connected, other authors distinguish the focus of their studies to make explicit whether attention has been paid primarily to the individual or to the organization. Darr et al. (1995) mentioned that their research focused on the organization rather than the individual. Fedor et al. (2003) and Hsu and Shen (2005) approached knowledge management from different viewpoints on the topic of the individual versus the organization. Fedor et al. thought that the individual

had been largely overlooked in the knowledge management process while Hsu and Shen thought that organizations were at risk if they viewed knowledge management as the "management of individual learning instead of collective learning" (p. 354).

Due to the literature gap and the different perspectives from which to approach the individual and the organization as it pertains to knowledge loss, it is critical that researchers clarify their position on this topic so that the research can be appropriately verified, validated, and extended by others. As Benkard (2000) indicated, "It is entirely plausible that forgetting may occur both at the individual and organizational level" (p. 1037). It is also critical that researchers take stock of the many different ways to which the term knowledge loss is referred. One of the contributing factors to the literature gap could be that researchers are using multiple terms to describe a singular phenomenon.

Knowledge Loss Terminology

As stated in the introduction of this chapter, when conducting the literature review it was necessary to search multiple terms related to knowledge loss because researchers have not used consistent terminology when referring to the phenomenon. The three most prevalent terms used in the articles appeared to be knowledge loss, organizational forgetting, and unlearning. Initial searches using the term knowledge loss resulted in a return of 11 articles. Of those 11, 6 were focused on knowledge loss due to retirements and turnovers. Although the authors of those articles exposed the upcoming crisis in respect to the baby boomers exiting the workforce, none provided an academic argument as to the impacts of this crisis to the organization's performance as a whole. Two articles

applicable to the topic under study were selected for this review (Lesser & Prusak, 2001; Treleaven & Sykes, 2005). The remaining three articles were not applicable.

Searches using the term organizational forgetting yielded eight results; four of those articles were relevant to the topic and were selected for this review (Benkard, 2000; Martin de Holan & Phillips, 2004; Martin de Holan et al., 2004; Thompson, 2007). Searches using the term unlearning yielded a significant number of results, with 62 academic journals and 31 other resources related to trade journals, magazines, and newspapers. Six articles regarding unlearning were relevant to the topic of knowledge loss (Akgun, Lynn, & Byrne, 2006; Kransdorff, 1999; Kuwada, 1998; Lei, Slocum, & Pitts, 1999; Sherwood, 2000; Shiu & Chan, 2006). The Martin de Holan and Phillips article was also cross-referenced with the term unlearning. Despite the number of articles returned in the search, Akgun et al. said as recently as 2006 that "unlearning, which first appeared almost 30 years ago as a subprocess of the organizational learning process, has received only limited attention in the literature" (p. 73).

Although both Darr et al. (1995) and Thompson (2007) used the term knowledge depreciation prevalently throughout their articles, neither article was found under a search of that term. The search resulted in five articles and none of the articles were selected due to lack of relevancy. While knowledge depreciation was one of the terms that yielded the least results, knowledge retention resulted in 21 returns, but none were applicable.

Of all the search terms used by this researcher to locate articles on knowledge loss, organizational memory yielded the most returns with 118 results. Only two articles (Ackerman & Halverson, 2000; Akgun et al., 2006 [cross-referenced with the term

unlearning]) were selected from the results, however, because the articles found under the search term were not relevant to the scope of this study. Perhaps this lack of relevancy can be attributed to use of the term itself; Ackerman and Halverson stated that "after nearly 10 years of research, 'organizational memory' (OM) has become overworked and confused" (p. 59, emphasis in original).

For future research, it may be necessary to come to some type of consensus regarding knowledge loss and the terminology surrounding it. Even if researchers choose to use the term organizational forgetting instead of knowledge loss, cross-referencing the articles with relevant or predominant search terms would pull the body of research together in a more cohesive fashion. "Without addressing the question of integration, we run the risk of propagating a highly fractionated view" (Argote et al., 2003, p. 572).

Despite the lack of consistency in terminology, research on knowledge loss should not be undermined by it. The impetus for continuing knowledge loss research is similar to continuing organizational memory research:

> Nonetheless, we do not argue for abandoning or ignoring OM as a concept. Despite the problems, there is something compelling about the idea. As Bannon and Kuutti state: That such a concept is appealed to across a wide range of studies, even if its definition is disputed, is testimony to the fact that even if people cannot agree on what exactly the term means, there must be some set of issues. . .that people feel are important and worth discussing. (Ackerman and Halverson, 2000, citing Bannon & Kuutti, 1996, p. 60)

In an interesting parallel, regarding the practice of knowledge management, Fluss (2002) said, "That KM [knowledge management] is still around and keeps being reincarnated shows its durability in theory if not its practical value" (p. 40). Continuing research on

knowledge management and its various dimensions, like knowledge loss, is important and worth discussing, as is showing its practical value.

At present, articles that could significantly contribute to the body of research about knowledge loss might be missed in a literature review due to the lack of consistent terminology. "Moreover, a limited appreciation of the links across disciplinary perspectives can prove to be inefficient as researchers fail to take advantage of ideas produced in other areas and simply 'rediscover' what is known already" (Argote et al., 2003, p. 572, emphasis in original). Adding complexity to this issue is that the term knowledge loss itself can be thought of from two unique perspectives. Knowledge loss can be accidental, but it can also be purposeful.

Accidental and Purposeful Knowledge Loss

Martin de Holan and Phillips (2004) indicated that that there are three concepts related to organizational forgetting, avoiding forgetfulness for knowledge that has been introduced but not yet documented, maintaining documented organizational knowledge, and discarding knowledge when it is no longer useful or applicable. Within any of these concepts, organizational forgetting is either accidental or purposeful. Martin de Holan et al. (2004) stated that there is a fundamental difference between the two.

Accidental forgetting occurs because of memory decay or failure to capture. Sometimes, knowledge is accidentally lost by individuals and by the organization. Benkard (2000) mentioned that knowledge loss sometimes occurs because of disuse and Martin de Holan et al. (2004) discussed that issue in their article by noting that information decays if it is not used regularly. In other situations, knowledge is

accidentally lost because it has not been transferred and institutionalized into organizational memory, a point that Darr et al. (1995) also made when discussing knowledge transfer. Regarding this situation, Martin de Holan et al. said that "information must be captured from individuals and made institutional—a process that involves a range of activities to routinize, codify and store knowledge" (p. 48).

While accidental forgetting has negative strategic implications for the organization, intentional forgetting can have positive strategic implications. This is because intentional forgetting, according to Martin de Holan et al. (2004), is a set of actions that are actively managed at the organizational level. If knowledge is harmful to the organization, the organization can work to promote intentional forgetting by the employees and the organization after a period of time. The authors indicated that organizations can do this by promoting unlearning and avoiding bad habits. Promoting unlearning has ramifications for learning management and those ramifications will be discussed in the next section. In order to avoid bad habits, which has knowledge management consequences, also discussed in the next section, Martin de Holan et al. stated that "routines, practices, ideas and values that are counterproductive" must be identified and addressed (p. 50). As an example, a bad habit manifested by an organization would be its continued failure to incorporate lessons learned into the organization's collective memory because it cannot articulate why a project succeeded or failed.

What Martin de Holan et al. (2004) did not address in regard to intentional forgetting showcases their focus on the organization and organizational forgetting rather

the individual and individual forgetting. Consider that some employees may choose to intentionally forget something at the individual level that consequently has an impact to the organizational level from the perspective of performance. Although Martin de Holan et al. posited intentional forgetting in a positive way, there could be a more negative side to organizational forgetting that is tied to unlearning, intentional forgetting, and the individual's engagement in his or her position with the organization. Thompson and Heron (2005) noted how the level of employee engagement impacted knowledge sharing while the Equal Employment Opportunities Trust (2007) noted how that level impacted productivity, which was called discretionary effort by the Trust. Citing the Corporate Leadership Council, the Trust noted that "70% of members [are] reporting increased concern with what they describe as spiritual turnover: although physically present in the workplace employees may not be deeply engaged in their work" (p. 17). This is not to say that the employee is acting in a sinister or unethical way, but perhaps is not engaged or is choosing to intentionally forget something because he or she is resistant to the unlearning and subsequent change that it brings, whether in process, routine, or values. Unlearning and employee engagement, therefore, and in the broader sense, knowledge loss, and its symbiosis with organizational culture and organizational change cannot be overlooked. Thompson and Heron and the Trust specifically pointed out how culture, change, and leadership support impact employee engagement.

In addition to the mode of forgetting, whether it is accidental or intentional, Martin de Holan et al. (2004) also spoke to the source of knowledge as another component or dimension of organizational forgetting. According to the authors, there is a

difference between new knowledge, which "lives a more ephemeral life in the minds of individuals" and entrenched knowledge, which can be "deeply embedded, both culturally and technologically" (p. 46). Allen (2001) discussed the transient nature of knowledge when he said, "Anything that has to interact with an environment and with other living things in order to survive will find that the value of any piece of knowledge is ephemeral" (p. 177). Here again is a connection between the organization as a system, its collective knowledge and culture, and the phenomenon of forgetting.

Martin de Holan et al. (2004) argued that organizations must understand all dimensions of forgetting and all dimensions of sources of knowledge, which are shown in Figure 1. The authors called this the mode of forgetting matrix and stated that the matrix:

> Highlights the four processes stemming from the intersection of the two dimensions: memory decay, failure to capture, unlearning and avoiding bad habits. Together, they describe the range of organizational forgetting that can occur. Each is associated with a distinct set of processes and contexts that results in a specific set of challenges. As such each of the four processes must be managed differently. (p. 47)

In order for organizations to understand the dimensions of the mode of forgetting matrix, there is a need to have an understanding of learning management, knowledge management, organizational culture, and organizational change as these are all elements that contribute to this phenomenon of knowledge loss.

Understanding Learning and Knowledge Management Implications

In his discussion of the knowledge intensive firm, Higgins (2006) applied a similar multidimensional framework to knowledge and learning that Martin de Holan et al. (2004) applied to organizational forgetting. Higgins stated that knowledge is "multifaceted and complex, being situated and abstract, implicit and explicit, distributed

and individual, developing and static, verbal and encoded. Analysis of the relationships between these different perspectives of knowledge is as important as any delineation of their differences" (p. 190). Misunderstanding and misapplication of learning and knowledge management in an organization can contribute to knowledge loss. Organizations must recognize the role and relationship that these concepts play in loss and forgetting.

One of the ongoing issues in learning and knowledge management is the failure to recognize knowledge loss as a critical piece of any learning and knowledge management framework. When Argote et al. (2003) created a theoretical framework for organizing research in this area, they included knowledge creation, retention, and transfer. Knowledge loss, or knowledge discard, was not included in that framework. The authors implied that knowledge retention included within it elements of knowledge loss, but in order to bring full attention to this issue, it needs to be clearly identified and called out in the frameworks that are created, presented, and discussed in the literature. Even though Argote et al. did not explicitly include knowledge loss in the framework, they recognized the importance of the concept when they stated that "research is needed on how properties of units, properties of relationships, and properties of knowledge affect whether knowledge persists through time or whether it depreciates. . .whether or not knowledge depreciates has important implications for both operational and strategic decisions of firms" (p. 579).

Another ongoing issue or point of discussion is what is sometimes portrayed as the dichotomous relationship between the individual and the organization. Earlier in this

chapter, the relationship between individual and organizational forgetting was discussed. The discussion of that relationship is also relevant here in terms of the individual or the organization as related to learning and knowledge management. Higgins (2006) paid particular attention to this topic when discussing the knowledge intensive firm. His definition of a knowledge intensive firm was one that exists in a highly dynamic environment where the firm must create new knowledge to achieve success. Operating from a holistic, systems view similar to Senge, whose 1990 work is cited by the author, Higgins presented a more harmonious view of the individual and the organization.

> One of the most important areas of the learning organization is a shift in mind set: from seeing ourselves as separate from the whole, to being connected to the whole, from seeing problems caused by someone 'out there to seeing how our own activities create problems we experience' (Senge, 1990: 12-13) thereby illustrating the fact that people act upon a system of which they themselves are an inseparable part, so the observer and the observed are belonging to the one and the same complex dynamical system. (p. 200, emphasis in original)

For the concept of knowledge loss, then, as well as learning and knowledge management, attention needs to be given to both the individual and the organization because they are one organism acting together for the performance of the organization. "By understanding the dynamic complexity of knowledge it is possible to comprehend the whole organization and its activities in knowledge development through learning and interaction" (Higgins, 2006, p. 205). Organizations must work, in their application of learning and knowledge management processes and techniques, to ensure that there is a balance between the individual and the organization.

Technology, Leadership Support, and Tacit Knowledge

Three other points warrant discussion here regarding learning and knowledge management—technology, leadership support, and tacit knowledge. The first two are specific issues that are often talked about when discussing learning and knowledge management (Davenport & Prusak, 2000; Schein, 2004). They are addressed here because some authors have identified in their studies of knowledge loss that technology use can minimize the rate of depreciation while other authors have identified the importance of leadership as a way to minimize the rate of depreciation (Benkard, 2000; Darr et al., 1995; Martin de Holan & Phillips, 2004). Darr et al. claimed that "knowledge embedded in the technology may be more resistant to depreciation than knowledge embedded in individual workers or in other aspects of the organization" because their data showed that the rate of knowledge depreciation was slower in pizza stores using more advanced technology (p. 1761). The authors go on to indicate that technology can act as a channel that fosters knowledge transfer not only throughout an organization but throughout an industry. Assigning appropriate leadership to learning and knowledge management can foster that knowledge transfer as well.

Martin de Holan and Phillips (2004) found that knowledge loss in the hotel industry was greater if leadership support was lacking. Specifically, they found that "without constant managerial attention, the new routines would slip away and old routines would be activated" (p. 1607). In order to foster knowledge transfer and maintain retention of new knowledge, the changes have to be reinforced, not only

through learning and knowledge transfer, but through consistent messaging from management and adequate leadership support.

In their study of the effects of knowledge management on project success, Fedor et al. (2003) learned that teams facing limited knowledge transfer needed leadership support to overcome obstacles to transfer. It may be that leadership is critical to help teams move beyond the confusion that exists surrounding knowledge transfer. This is because "people do not just receive new knowledge passively; they interpret it actively to fit their own situation and perspective. . .as a result there is continual confusion as new knowledge is diffused in an organization" (Nonaka & Takeuchi, 1995, p. 15). Indeed, Higgins (2006), highlighting the role management plays in knowledge generation, stated that "the creation of knowledge requires rule-breaking, improvisation and multiple voices. If knowledge work is intrinsically learning-based and experiential, then one must be aware of ways in which managers identify and negotiate uncertainty to establish new areas of knowledge" (p. 194).

While technology and leadership can foster knowledge transfer, organizations should not solely rely on one or the other as a singular solution to a multifaceted problem. That type of focus would go directly against what scholars and researchers have taught about learning and knowledge management; it requires a blended stream of attention to technology, culture, and people (Davenport & Prusak, 2000; Nonaka & Takeuchi, 1995). Moreover, that type of simplistic view implies that knowledge is explicit when, in reality, knowledge is both tacit and explicit (Hsu & Shen, 2005; Tsoukas, 1996). Per Tsoukas, "Tacit knowledge is the necessary component of all knowledge; it is not made up of

discrete beans which may be ground, lost, or reconstituted. . .to split tacit from explicit knowledge is to miss the point—the two are inseparably related" (p. 101).

Tacit knowledge and its role in knowledge loss has been explored and has been shown to be of significant impact to organizational performance with sometimes catastrophic impacts (Thompson et al., 2001; Treleaven & Sykes, 2005). In a qualitative case study examining loss of organizational knowledge in the service organization of Australian Christian Community Services (ACCS), Treleaven and Sykes noted that "the loss of such tacit and heuristic knowledge of staff working in client services affects not only the meaningful engagement with clients, but also the capability of the organization to provide effective service in many situations" (p. 362). This loss was the result of reorganization that placed greater financial emphasis on the organization and its employees. The focus on the client became subservient to the global financial needs of the organization and its focus on strategic management once the business environment became competitive. A necessary output of this focus was the need for more stringent data collection. Agency employees, therefore, reported that more time was spent attempting to get data entered into or retrieved from a $10 million software package than was spent serving the client. Despite Thompson et al. (2001) stating that "interactive service work requires the presence of social and tacit knowledge, but the profitable practice of such knowledge is still a matter of negotiation between workers and managers," the new financially-focused managers that were brought in to ACCS did not have the type of tacit knowledge that was critical to effectively serving clients (p. 937).

Ultimately, from an academic perspective, most researchers call for additional empirical analysis including Fedor et al. (2003): "Unfortunately, aside from a few notable exceptions, much of the literature on organizational learning and knowledge management is not at the operational or empirical level" (p. 514). What is barely known, and what needs to be examined more thoroughly, is how learning and knowledge management practices can be used to champion knowledge creation, retention, transfer, and loss. That examination must include all facets of theory and practice, including considerations of implementation and maintenance costs and, just as important, organizational performance. "While knowledge management can require significant resources to do well, ultimately ignorance can apparently be much costlier" (Fedor et al., p. 514).

Knowledge Transfer and Unlearning

To combat the costliness of knowledge loss to an organization, overcompensating in the area of knowledge transfer without an understanding of learning and knowledge management can be detrimental. Overcompensation, in fact, can lead to what Loewenstein, Moore, and Weber (2003) called the curse of knowledge. The authors stated that many organizations operate from the assumption that more knowledge is good because "decision-makers can ignore information that is not valuable or that should not be used" (p. C1). In their quantitative study, however, they demonstrated that this was not the case and problem-solving became much more difficult as additional knowledge was introduced.

To balance a tendency toward overcompensation, Hsu and Shen (2005) advocated managing both the body of knowledge and the process flows that surround transfer to

avoid knowledge loss. They cautioned that "having knowledge transferred is not just a matter of acquiring it. It requires intensive and laborious interactions among people. In other words, merely moving documents around can never generate knowledge" (p. 353). This reproach can also apply to the need make this a qualitative study and establish those interactions, even if brief, among people to discover how the phenomenon of knowledge loss is occurring. Hsu and Shen did go on to state that access does not imply understanding: "People still have to select, integrate and augment information to create understandings and knowledge" (p. 353). During this process of selection, integration, and augmentation, unlearning may need to occur.

Unlearning is, in many cases, not a smooth process for the individual and the organization. Unlearning can be extremely difficult. For those who have researched unlearning, the theme that is most prevalent is that of change and breaking away from current process or routine (Akgun et al., 2006; Dixon, 2002; Fiol & Lyles, 1985; Kransdorff, 1999; Lei et al., 1999; Sherwood, 2000). Per Akgun et al., "The team's mindsets, routines, and knowledge. . .can act as a straight jacket or source of rigidity" (p. 75). Breaking through this rigidity is what can make the process of unlearning so difficult.

Sherwood (2000) drew attention to the arduous task of unlearning by calling it an act of destruction. The old knowledge must be destroyed in order for the new knowledge to be adopted. Destruction of knowledge in an organization is inherently challenging precisely because the individual and the organization are so intertwined. Also, it is

challenging because new knowledge is not passively accepted and the old knowledge not passively abandoned.

> And someone who is even wiser still will spot that the most difficult baggage of the past to discard is not the physical stuff, but the mental, political, and emotional stuff—the 'rules' or the procedures, the sacred cows, the prejudices, the beliefs, the 'way we do things around here'. (p. 35, emphasis in original)

This difficulty, this laboriousness, however, may be inherently fundamental for the unlearning to occur. Fiol and Lyles (1985) stated that "a certain amount of stress is a necessary if learning is to occur" (p. 805). Citing several authors, Fiol and Lyles said evidence exists that crisis is necessary for learning to occur. Unlearning, specifically, is what results after some type of organizational crisis. Although a crisis could be categorized as something as significant as a buyout or the implementation of a new management structure, a crisis could also be categorized as new knowledge being introduced into the organization that causes individuals to question routines, beliefs, values, and assumptions (Akgun et al., 2006). The assumption "that receivers would accept new ideas without probing the reasoning and data behind them denies the reality that people cannot implement what they do not thoroughly understand" (Dixon, 2002, p. 40).

When routines, beliefs, values, and assumptions are undergoing change, it is an organization's culture that is undergoing change as well. The culture must be able to support change. Organizations cannot just will unlearning onto its employees. "Creating and sharing knowledge are intangible activities that can neither be supervised nor forced out of people. Thus, it is necessary for organizations to provide a learning culture,

infrastructure, and appropriate incentives to generating and disseminating knowledge" (Hsu & Shen, 2005, p. 354).

The timing of unlearning must also be considered to prevent knowledge loss (Akgun et al., 2006). If cultural elements are in flux, organizations must ensure that individuals are ready to receive new knowledge in order to unlearn old knowledge. If knowledge is introduced inaccurately or at inappropriate times, the transfer will fail and knowledge will be primed for loss. This event can be seen very explicitly in failed implementations of technology solutions. Downing (2004) presented one such case from a contact center. The technology that was introduced to make contact workers more efficient at their jobs and to bring knowledge to their desktops failed. Not only did the technology not work properly, the knowledge that it contained was inaccurate. Initial knowledge know-how on how to use the tool depreciated because the contact center agents stopped using it. Although unlearning was attempted, the timing was not appropriate because the tool was not ready for use in a production environment. As Akgun et al. point out, "Unlearning does not always generate good returns in the time desired" (p. 84).

Although difficult to plan for an unexpected or unknown crisis and the requisite time related to the unlearning that should appropriately accompany said crisis, organizations may fare better and mitigate knowledge loss if they think of unlearning specifically, and learning and knowledge management more generally, from an organizational change perspective. For example, when Davenport and Prusak (2000) talked about linking learning management and knowledge management, they identified a

primary benefit. Both systems seek to change or enhance culture and both focus on people and behavioral issues. This change and focus can drive knowledge generation, transfer, and retention. Loss, of course, still exists within the cycle, but it may be more planned and purposeful loss as opposed to accidental loss.

Understanding Organizational Culture and Change Implications

"Change dynamically produced by the everyday actions of organizational members engaged in their work, dramatically, but nevertheless continuously, recreates and replaces organizational knowledge" (Treleaven & Sykes, 2005, p. 356). To facilitate change, an organization's culture must nurture it, support it, and manage it. From an organizational culture and change perspective, authentic learning and authentic knowledge sharing can drive change forward. Organizational change and organizational culture can be used to promote purposeful knowledge loss and to prevent accidental knowledge loss.

The same concept of breaking away that was applied to unlearning earlier in this chapter can also be applied to organizational change. According to Lewin (1951/1997), if there is to be any type of change in a group's performance, the group must move through three specific steps of change: unfreezing, moving, and freezing. It is during the first step, unfreezing, where the concept of breaking away is applicable. This step sometimes requires deliberate action to shake the group from its complacency or inertia. An event must happen for the group to be motivated to change. "To break open the shell of complacency and self-righteousness it is sometimes necessary to bring about deliberately an emotional stir-up" (Lewin, p. 330).

Oversimplifying Change

The churning of emotions that Lewin (1951/1997) referred to during times of organizational change is the reason why organizational change cannot be oversimplified. For example, although Lewin's three-step model may lead people to believe it is a simple, linear process, an enormous amount of work happens between each step. "The implementation process is messy. Things don't proceed exactly as planned; people do things their own way, not always according to the plan; some people resist or even sabotage the process" (Burke, 2002, p. 2).

Some authors (Burke, 2002; Weick and Quinn, 1999, as cited in Burke, 2002) claim that there are two types of change, which further prevents simplifying or reducing change to an easy process. Burke spoke of revolution (transformation) versus evolution (transaction). It is during revolution and transformation that culture is truly impacted and large organizational change occurs. Revolution and transformation occur during periods of episodic change (Herman, 2007). Weick and Quinn, as cited in Burke, 2002, agreed that Lewin's (1951/1997) three-step change model is applicable to this concept of revolution and transformation and episodic (as opposed to continuous) change. For evolutionary, continuous change, the authors applied Lewin's model in a new way. When the organization is focused on continuous change, the model for change becomes one of *freeze-rebalance-unfreeze*.

> To *freeze* continuous change is to find patterns in day-to-day life in the organizations and to reinforce them. To *rebalance* is to change the patterns so that few restraints and barriers are present and the continuous change can flow more freely. To *unfreeze* after the rebalancing is to innovate and find new ways of ensuring continuous change. (Weick and Quinn, 1999, as cited in Burke, 2002, p. 141, emphasis in original)

Although knowledge loss could certainly be caused by revolutionary change, which may be the change that will result from the baby boomers leaving the workforce, this study focused on the knowledge loss that is caused by evolutionary change, in the day-to-day life of the organization and its employees.

Whether the change is considered revolutionary or evolutionary, those involved in implementing change must recognize that it must be at the group level. "If a sufficiently deep and permanent change is to be accomplished, the individual will have to be approached in his capacity as a member of groups. It is as a member of a group that the individual is most pliable" (Lewin, 1948/1997, p. 47). This is a clear directive in the research to look not only at the individual and how knowledge loss impacts the individual, but to also look at the group and the organization and how knowledge loss impacts the system in total.

Leadership Support

If evolutionary change is appropriately managed at the organizational level, the possibility of knowledge loss can be reduced. Consider the qualitative case study completed by Martin de Holan and Phillips (2004) where lack of leadership support contributed to knowledge loss. If emphasis on leadership support was part of an organizational change initiative, and the culture was subsequently influenced and changed, knowledge loss could be positively impacted as there is a close connection between leadership and culture.

Leaders face enormous pressure. Not only are they responsible for being thought leaders and for building and sustaining culture, they are also responsible for sensing a

culture in trouble and subsequently regenerating that culture or creating a completely new culture (Herman, 2007).

> Once cultures exist they determine the criteria for leadership and thus determine who will or will not be a leader. But if elements of a culture become dysfunctional, it is the unique function of leadership to be able to perceive the functional and dysfunctional elements of the existing culture and to manage cultural evolution and change in such a way that the group can survive in a changing environment. (Schein, 2004, p. 23)

Leaders are pivotal in managing the anxiety caused by change. As Schein said, "The leader may not have the answer, but he or she must provide temporary stability and emotional reassurance while the answer is being worked out" (p. 407).

Resistance to Change

What everyone must remember, including leaders, is that people can become comfortable in the organizational culture in which they work. When there is a change to that culture, people may resist. "It's a paradox of evolution or development that the more we learn how to do things and to stabilize what we have learned, the more unwilling or unable we become to adapt, change, and grow into new patterns" (Schein, 2004, p. 83). It is this resistance that can lead to purposeful knowledge loss. People can choose to forget something that they have learned because they resist what is changing and this can have significant ramifications for organizational performance. If there is understanding of what causes resistance to change, those causes can be addressed by the organization in order to positively promote change.

The implications of Isabella's (1990) research are insightful when considering the causes of resistance to change (Herman, 2007). Her findings indicated that "resistances to change might alternatively be viewed, not as obstacles to overcome, but as inherent

elements of the cognitive transition occurring during change" (p. 34). Other authors (Burke, 2002; Lewin, 1951/1997; Schein, 2004; Senge, 2006) shared this view. Lewin said that:

> The lack of a cognitively clear structure is likely to make every action a conflicting one. The individual, not knowing whether the action will lead him closer or farther away from his goal, is necessarily uncertain as to whether or not he should carry it out. (p. 266)

This uncertainty can lead to knowledge loss because the individual, having no resolution to the uncertain state, discards the knowledge. As Fiol and Lyles (1985) stated: "Changes in behavior may occur without any cognitive association development; similarly, knowledge may be gained without any accompanying change in behavior" (p. 806).

Galpin (1996) provided readers with Neider and Zimmerman's resistance pyramid. The pyramid contains three levels and resistance lessens at each level if people feel satisfied that lower levels have been addressed. It is referenced here because there are parallel concepts between resistance to change and knowledge management. The lowest level is *not knowing*. If people do not have knowledge, if other organization members such as management are not communicating and are not telling the story of change, there is a high level of resistance. From a knowledge management perspective, no knowledge is being shared or transferred at this level. If knowledge is provided to members, the resistance lessens but can be experienced again at the next level of the pyramid, which is *not able.*

Within this level, organization members have received knowledge that verifies an event. Now they are concerned that they will not be able to meet the challenges of the changes inherent in the event. In essence, they think or feel that there is a gap in their

skills. The way the organization addresses this level of resistance is to provide training and learning opportunities for these members. After the needs for this level have been met, the last level of the resistance pyramid is *not willing*. Willingness to change increases if knowledge is shared and if training and experience improve abilities to meet job requirements.

Levinson (1976, as cited in Burke, 2002) took a unique approach to resistance. He reminded people that change equals loss. In fighting resistance to change, most organizations do not want to deal with this aspect of change. Yet it is a very real component of change. "All change is nevertheless a loss experienced, particularly for a loss of familiar routines. And the more that what one leaves behind is psychologically important, the more likely one's behavior will take this form of resistance" (Burke, 2002, p. 92).

Levinson's (1976, as cited in Burke, 2002) reference to behavior leads back to beginning of the section and back to the beginning of the discussion on knowledge loss. Knowledge management and learning management seek to change or enhance culture and both focus on people and behavioral issues (Davenport & Prusak, 2000). Knowledge loss is a key component of any knowledge management framework; however, it has often been overlooked in the literature and infrequently connected to organizational performance. In the service industry, its application to organizational performance has been limited to two service organizations, hotels and food franchises. This study extends the application of knowledge loss and organizational performance to the contact center service industry.

Contact Centers

Although any service industry organization could be selected and an examination of knowledge loss and its impact on organizational performance conducted, choosing contact centers as the organization under study is significant. At this moment, contact centers are undergoing phenomenal change and are ripe for study. The growth of contact centers, the ongoing debate about whether service work is knowledge work, the immediacy of the job, and the constant performance monitoring converges into a dynamic environment where knowledge, learning, culture, and change collide. Some have also pointed to a literature gap that exists with this workforce. According to Downing (2004), "Less attention has been paid to another essential type of knowledge worker. These are low-paid, relatively unskilled customer support technicians who staff the phones for credit card companies, banks, utilities, and countless help desks across the country" (p. 166).

Since the first center opened in the aviation industry in the 1960s, contact centers have undergone significant change. Contact center statistics vary, but it is estimated that contact centers employ 3% of all workers in the United Sates, which equals about 7 million agents (Downing, 2004; Hillmer et al., 2004; Tschida, 2005). The number of contact center organizations in the United States has been reported as high as 100,000 (Downing, 2004). Tschida (2005) noted that a report said the industry was valued at $40.1 billion and recorded a 7.4% increase in growth between 1999 and 2003. It was predicted in the report that contact center growth outside of the United States would be substantial. In Europe, Africa, and the Middle East, contact centers are expected to

number near 45,000 with 2.1 million agents; growth is also expected in Canada, the Caribbean, and Latin America (UK Department of Trade and Industry Study, 2004).

Hillmer and Kocabasoglu (2007) noted that contact centers are significant to study because they employ such a large population of the workforce in some countries. The authors also emphasized the strategic role that the contact center plays in an organization with respect to sales, marketing, and customer support. Moreover, they noted the significant amount of data that is routinely captured on employee performance. Because of these three elements, contact centers offer a rich landscape from which to learn.

The Environmental State

Contact centers are certainly not exempt to issues that are concerning the business world right now with respect to the epidemic of data and information that must somehow be managed. "After three decades of aggressive computerization, companies are drowning in data; indeed, many companies have begun to conclude that they can no longer benefit sufficiently from the vast amount of information they maintain" (Rothfeder, 2006, p. 19). Baker (2006) said that every Chief Information Officer is dealing with "how best to generate, collect, analyze, distribute, store, and finally do away with the mountains of information their organizations work with daily" (p. 15). Given what researchers have said regarding the lack of emphasis on knowledge loss, it would seem that more attention has been paid to generation, collection, and storage. There is still much to be done with distribution and discard.

What is evident, however, is that the massive amount of data and information that is available to people is negatively impacting their performance and costing organizations money. Laff (2007) included a comment from Gladwell about this phenomenon:

> Wikipedia and Google are 21st century solutions to 19th century problems. They're just more updated libraries that allow you to use more space. They're a solution to a problem we didn't have. The real issue in the 21st century is how to make sense of all that information. We need to be able to analyze all of that information intelligently. (p. 41)

Pfeiffer (2006) referenced e-mails, instant messages, blogs, and videos as items of unstructured data that fall outside of what is routinely captured and stored by organizations. If capture is necessary to facilitate knowledge transfer, the knowledge loss that is occurring because transfer is not happening could be monumental. Not only is knowledge loss a somewhat predictable outcome of this issue, but productivity is also compromised. Pfeiffer noted that "many attempts have been made to put a dollar figure on the productivity loss associated with looking for old e-mails or tracking down important company memos" (p. 48). One estimate indicated that a company could recoup $2.5 million in lost productivity if it improved the search engine on its intranet thereby reducing the time employees spent searching for data. From the knowledge management lens, Bailor (2007) cited a report of knowledge management processes in 117 organizations that showed that over half of all content available was unused.

Even with data to validate the non-use of available content, the focus continues to be on generating and capturing more and more knowledge. This is true in the contact center environment where the push is "about harnessing information that already exists inside the organization to deliver exceptional levels of service" (Saggese, 2004, p. 13).

Saggese did not talk about what do with the sheer quantity of information that could result from this round-up. Instead, he invoked the worn out catch-phrase of knowledge management practice, getting the right information to the right people at the right time, which sounds simple enough, but which fails to deal with the complexity of knowledge, the diverse human factors at play, and the polychronic nature of time "where seconds to resolutions, not minutes or hours, are emphasized" (Customer Contact Council Best Practices Research, 2007, p. 23).

Complexity of knowledge is an area that is of particular interest in the contact center industry. In order to increase efficiency as well as customer service satisfaction, many contact centers are attempting to drive to something called *first call resolution*, where an agent is able to resolve the caller's question or issue without having to transfer the caller to another agent and without having to initiate a callback to the caller. The whole premise of first call resolution, however, seems to be on shaky ground if not a fallacy altogether. That is because the simple, easy-to-resolve issues have been moved to self-service Interactive Voice Response (IVR) systems or to website pages of frequently asked questions. It is the most complex customer issues that are now being routed to the agents. Knowledge bases, technology, and appropriate staffing are not keeping up with the promise of first call resolution. This is important because contact centers must expand the knowledge of the agents to be able to effectively handle almost any call on the first contact without transferring. If the contact center has knowledge gaps due to knowledge loss, but is not aware of where those losses occur, expanding the knowledge of the agents has the potential to magnify the gaps and impact customer service and performance.

From the staffing perspective, Hillmer et al., (2004) noted that agents need to be better skilled than they have been in the past in order to meet the requirements of a multichannel contact center. In these multichannel environments, agents may be taking inbound calls as well as inbound inquiries from the organization's website or mail room. They stated, "CSRs must handle elevated customer expectations, understand complex products and services, explain creative pricing strategies, navigate sophisticated technology, operate within regulatory limitations, and meet or exceed challenging individual performance expectations for variables such as talk time and sales quotas" (p. 36). Compounding this issue is the huge fiscal responsibility that looms over the contact center, which means that the pace of the job is extremely rapid and agents are often on back-to-back calls.

Contact Center Culture

The rapidity of the job, the required skill set, and constant attention to performance makes the contact center culture unique. Although organizations have worked to improve culture, there is still a high level of frustration with contact center work and with the culture, which has been discussed and debated in the literature (Callaghan & Thompson, 2002; Dawson, 2005; Downing, 2004; Heyes, 2002; Kinnie et al., 2000; Sturdy & Fleming, 2003; Thompson et al., 2001; van den Broek, 2004).

The rapidity or pace of the job impacts culture as the contact centers struggle to find ways to transfer complex knowledge to the agents. This issue is exacerbated by the continual pressure to manage the amount of time that agents spend on the call.

For example, if the cost per minute of a call is $1.00 and the average handle time increases from 6 minutes to 8 minutes, a cost of $2.00 has been added to every call. When centers are dealing with 3 million calls per month, this difference can cost an additional $6 million. Therefore, in the contact center environment, a very close watch is kept on the average handle time of each call (Herman, 2006).

This focus on average handle time influences the contact center culture. Callaghan and Thompson (2002) and Dawson (2005) mentioned this influence. In a qualitative case study, Callaghan and Thompson examined how recruitment techniques are combined with training to retain employees in a banking call center. Although bank management talked about wanting a pool of employees with diverse talents and experiences, CSRs talked about how those diverse talents and experiences were not valued because everyone was expected to perform the same. Specifically, one of the CSRs that they interviewed expressed frustration with the contact center management team expecting such a diverse workforce to be molded into a model bank CSR.

Callaghan and Thompson (2002) acknowledged that while some companies are working to change these issues, most have accepted that these are the cultural issues that are faced in numerous contact center environments and have resigned themselves to dealing with the recruitment and retention issues that result. Indeed, Dawson (2005) indicated that working around the issue of average handle time and efficiency is a contact center way of life.

This way of life means that turnover in the contact centers is high because several factors contribute the stress levels of agents. These include “time pressures to resolve

(often irate) customer problems, the complexity and constant change within the products. . .and the knowledge that a manager may, at any time, monitor one of their calls for quality assurance purposes" (Downing, 2004, p. 173). Pushing out more training to the agents may not be the right solution. As Osterloh and Frey (2000) have noted, "Experimental research shows that the speed of learning and conceptual understanding are reduced when people are monitored" (p. 540). According to Hillmer et al. (2004), "All of these factors combine to create a highly structured and stressful work environment resulting in turnover ratios in the industry as frequently as high as 60 percent to 80 percent annually" (p. 36).

Organizational Performance

Despite the high turnover in agents, contact centers will stay closely focused on organizational performance although the locus of performance is shifting. Whether that shift has a positive impact on contact center culture or the turnover rate is unknown because monitoring is still very much a part of performance. According to the Customer Contact Center Council (2006, 2007), there is a gradual switch occurring right now in the contact center industry. "Contact centers are shifting their individual performance metrics away from productivity-style metrics such as average handle time, and towards quality-style metrics such as customer satisfaction and quality assurance scores" (Customer Contact Council, 2006, p. 8). The Council noted that 90% of its members are focusing on quality metrics over productivity metrics.

The difference, as outlined by the Customer Contact Council (2006), is that key performance indicators have moved from average handle time and independent quality

assessments to time to resolution and customer-measured quality assessments. More specifically, sample quality metrics can include: call handling score, accuracy rate, customer satisfaction score, and first call resolution rate. Note the presence of the first call resolution rate, which is included despite the increasing complexity of initial inquiries to the contact center because less complex inquiries are triaged through IVRs and website portals. This is a change from previous productivity metrics, which included: call handle time, average speed of answer, after call work, and utilization rate.

This movement impacts more than just key performance indicators. The associated core skills of the agents and the knowledge that they must possess changes as well. Agents must be adept at non-linear problem resolution and must have a stronger understanding of products and tools. The Customer Contact Council (2006) predicted that frequent changes in knowledge will be required. If this is the case, knowledge loss could increase if the information is not easily accessible to the agent or if unlearning has not been embraced so that old knowledge is replaced with new knowledge.

During this transition, things may temporarily get worse for culture and for turnover. The Customer Contact Council (2006) stated that recruitment needs to change to support the transition. "When 'productivity agents' are placed into quality environments, customer frustration increases, and staff turnover drifts higher" (p. 8, emphasis in original). It is not just the agents who are impacted. More emphasis is being placed on the supervisory staff and on the quality/coaching staff. While retention is a significant driver in a productivity-based environment, coaching is the most significant driver in a quality-based environment. Coaching, where individuals or very small groups

of agents receive feedback from supervisors and managers, requires those supervisors and managers to make time for coaching. As Tschida (2005) pointed out:

> The industry is abuzz with the notion that increased coaching is the way to improve productivity and customer experience. Yet in a recent survey by Contact Professional, only 4% of respondents whose job it is to coach said they do so more than 50% of the time. (¶17)

In what the Customer Contact Council (2006) called the *75% quality/25% productivity world*, contact center organizations are instructed to focus more on retention strategies and coaching. The Council noted that increasing job opportunities for agents and effective coaching were drivers to retention. Regarding coaching, the Council noted that "companies strive to increase time spent coaching, but coaching effectiveness, not time, has the greatest impact on performance" (p. 65). Instead of increasing the time spent coaching, contact centers need to increase the quality of coaching by better training supervisors and managers in the skills of effective coaching.

Ultimately, how a contact center measures its organizational performance is shifting and with this shift comes an opportune time to step back from the hard metrics and investigate how the agents and the organization are managing this change when there is increasing knowledge complexity. Working toward an understanding of the role of knowledge loss in this environment and its impact on the ability to perform successfully in said environment could benefit the contact center industry while also narrowing the literature gap.

Chapter Summary

Chapter 2 highlighted the literature gap that exists about knowledge loss and its impact on organizational performance while drawing attention to the few studies that

have been completed (Benkard, 2000; Darr et al., 1995; Martin de Holan & Phillips, 2004; Martin de Holan et al., 2004; Thompson, 2007). The review covered an examination of knowledge loss and how that term has been situated in the literature to date. It also covered how knowledge and learning management applied to knowledge loss and how organizational change and culture applied to the concepts of knowledge and learning management, and, ultimately, knowledge loss. Further, a review of organizational performance was completed that highlighted the contact center as the organization under study. Chapter 3 includes a review of the mixed methods research used in this case study. Chapter 4 contains the results of the study based on analysis of the qualitative and quantitative data collected from the field research, while chapter 5 includes a summary of the study, the conclusions that were drawn, recommendations for further research, and implications for social change.

CHAPTER 3: METHODOLOGY

Introduction

This mixed model case study explored how knowledge loss can influence performance metrics in the knowledge intensive contact center environment, identified what factors contributed to knowledge loss, and identified specific knowledge loss dimensions present in the contact center using Martin de Holan et al.'s (2004) mode of forgetting matrix.

Previous research in both production and service industry organizations revealed significant relationships between knowledge loss and organizational performance (Benkard, 2000; Darr et al., 1995; Ibrahim, 2005; Martin de Holan & Phillips, 2004; Martin de Holan et al., 2004; Thompson, 2007). However, as the problem statement in chapter 1 indicated, organizations have low awareness of how knowledge loss occurs in their environment, how it impacts their performance, and how its omission in the routine practice of knowledge management by the organization creates knowledge gaps. Further, the organizations addressed in previous studies were limited and the concept had not been explored through the lens of the contact center. Although the researchers noted above have used quantitative, qualitative, and mixed methodologies to explore the phenomenon of knowledge loss in various organizations and have used these same methodologies to separately explore contact center issues, it appeared that none had used it to explore knowledge loss specifically in the contact center and none had used Martin de Holan et al.'s (2004) mode of forgetting matrix as a conceptual framework to identify specific areas where knowledge loss occurs.

This chapter contains a discussion of the mixed model case study methodology that was used in the research, the role of the researcher in the process, detailed descriptions of the case and participants under study, data collection procedures, data collection instruments, and finally a description of the data analysis procedures.

Research Design

On the surface, because of its readily available quantitative data about customer service scores, quality measures, call times, call accuracy, and so on, it might seem that a quantitative study would have been the most suitable approach for this research. A quantitative study would not, however, have enabled an exploration of the subtleties, nuances, and contextual situations inherent in knowledge management processes, including knowledge loss and knowledge discard, which are intimately connected to organizational culture, organizational change, and human involvement. As Downing (2004, citing Adria & Chowdhury, 2002) noted, "Although there are templates and decision-trees. . .in the end, it is the call-center worker who must decide the sequence of events that will lead to satisfactory resolution of an inquiry from a customer" (p. 175). Yet a researcher would be remiss to neglect the quantitative data available and the ability to use mixed methods research to "offset the weaknesses of both quantitative and qualitative research. . .and provide more comprehensive evidence" (Creswell & Plano Clark, 2007, p. 9).

Other researchers have chosen the qualitative approach when studying the contact center environment despite the vast availability of numbers, statistics, percentages, and scores (Ackerman & Halverson, 2000; Callaghan & Thompson, 2002; Cross et al., 2008;

Kuhn & Jackson, 2008; Rowold et al., 2008; Russell, 2007; Sturdy & Fleming, 2003; Thompson, Warhurst, & Callaghan, 2001; van den Broek, 2004). Callaghan and Thompson used a qualitative approach because it enabled them to "explore both the formal and informal processes that may be hidden in more quantitative analyses and develop conceptualizations that can aid further research" (p. 237). Sharing the same focus on process, Sturdy and Fleming noted that their "qualitative research approach enabled a more in-depth engagement with everyday organizational processes and it was particularly in this informal sphere that [they] discovered the technical efficacy of 'mere' talk" (p. 769, emphasis in original).

The discourse, the talk, that occurs through qualitative interviews and observations is what allows researchers to explore and uncover the rich context that may help explain how a phenomenon like knowledge loss occurs and what factors promote or prevent the event. Furthermore, using sound knowledge management principles to elicit tacit knowledge can be more fully realized through the qualitative approach. Face-to-face interaction and inquiry can promote a unique relationship where it is readily apparent to the participant that their information is valid, valued, and important. Per Dixon (2002):

> One of the things that makes it difficult to get knowledgeable people to write out what they know so that it can go into a knowledge repository is that databases don't provide a way for the individual to feel a sense of appreciation. It can, in fact, make the individual feel that his or her knowledge has gone into a black hole. (p. 38)

The qualitative perspective, therefore, seems to coalesce with the knowledge management perspective to create an environment where ideas and information are naturally shared and exchanged. Adair (2004, citing Ackerman et al., 2003) stated, "One

can't isolate knowledge from its social context without denaturing it, without stripping it of the social resources and social knowledge that contribute to its utility" (p. 573).

The quantitative perspective does remain relevant and researchers involved in previous contact center case studies supplemented their qualitative research with quantitative information, which provided some direction for this study. Downing (2004), in a descriptive case study, used quantitative performance metrics from the contact center as a point of triangulation for the qualitative data. The quantitative data revealed that average handle time of a call increased rather than decreased after technology implementation, which supported the qualitative findings but contradicted management claims that it would decrease average handle time. Kinnie et al. (2000), in an earlier case study, also used quantitative contact center performance metrics to help explain the background of the study and support the qualitative findings that morale had improved and working conditions were better as evidenced through lower attrition, higher productivity, and increased customer satisfaction.

Ultimately, when choosing a research design, researchers must consider the research questions under study, the overall intent of the study, the time and resources available to accomplish the study, and their alignment with certain philosophical and phenomenological beliefs. Several authors provide guidelines and decision-making matrices to help direct researchers through the process (Burns, 2000; Merriam, 1998; Merriam & Simpson, 1995; Yin, 2003). When considering all of those aspects, the mixed methods approach seemed most appropriate for this study and was the methodology used to conduct this research. Selecting a mixed methods approach offers researchers the

ability to bring the strengths of qualitative research and quantitative research together in one study. This is the key tenet of mixed methods research. "According to this principle, researchers should collect multiple data using different strategies, approaches, and methods in such a way that the resulting mixture or combination is likely to result in complementary strengths and nonoverlapping weaknesses" (Johnson & Onwuegbuzie, 2004, p. 18). Choosing only the qualitative method would have diminished the analytical power of understanding the relationship between knowledge loss and organizational performance using actual contact center data. Moreover, because data are readily available in the contact center, are used to drive operations, and are intimately bound with contact center culture, the study was strengthened by the addition of quantitative information. Choosing only the quantitative method would have diminished the explanatory power of the discourse, the talk, that occurs through qualitative interviews and allows researchers to explore and uncover the rich context that may help explain how a phenomenon like knowledge loss occurs and what factors promote or prevent the event.

Mixed Method Design Decisions

According to Johnson and Onwuegbuzie (2004), "To construct a mixed-method design, the researcher must make two primary decisions: (a) whether one wants to operate largely within one dominant paradigm or not, and (b) whether one wants to conduct the phases concurrently or sequentially" (p. 20). In mixed methods research, attention can equally be given to both the qualitative and quantitative methodologies or one methodology can be emphasized over another. In addition, data can be collected sequentially (e.g., qualitative data are collected first followed by quantitative data) or

concurrently (e.g., both quantitative and qualitative data are collected at the same time). There are no specific formulas for making either of these decisions. The decisions are based on what the researcher thinks will work best given the research questions and the topic under study. As noted by Johnson and Onwuegbuzie:

> We do not believe that mixed methods research is currently in a position to provide perfect solutions. Mixed methods research should, instead (at this time), use a method and philosophy that attempt to fit together the insights provided by qualitative and quantitative research into a workable solution. (p.17)

In this research design, the dominant method was qualitative and the collection of both qualitative and quantitative data occurred concurrently. Collection and analysis of qualitative research data identified areas where knowledge loss was most prevalent and what factors contributed to knowledge loss. Collection and analysis of secondary, supporting quantitative research data identified how contact center performance metrics were influenced by the phenomenon of knowledge loss. Dominance was given to the qualitative methodology because it enabled exploration of the subtleties, nuances, and contextual situations inherent in knowledge management processes, including knowledge loss, which could not have been uncovered by quantitative data alone.

Authors writing about mixed methods research (Creswell, 2003; Creswell & Plano Clark, 2007; Johnson & Christensen, 2004; Johnson & Onwuegbuzie, 2004; Tashakkori & Teddlie, 1998) have more specifically defined six mixed method strategies that researchers can select based on implementation (sequential, concurrent), priority (equal, dominant, secondary), and integration point (where the data are actually mixed during the research). Based on these definitions, the design strategy used in this study was the concurrent nested strategy. This meant that the qualitative and quantitative data

were collected at the same time during the research but the non-dominant methodology, which was quantitative for this study, was nested within the research. “The premises of this design are that a single data set is not sufficient, that different questions need to be answered, and that each type of question requires different types of data” (Creswell & Plano Clark, p. 67). In an earlier publication, Creswell noted this strategy is selected by the researcher to “gain broader perspectives” by using both methodologies as well as to study different groups of people or different levels of an organization (p. 218).

The applicability of this strategy to this study was as follows: qualitative data were collected from individual contact center staff while quantitative data were collected at the contact center level and the data were mixed during the analysis and interpretation stage. “As long as both quantitative and qualitative research approaches are used within the same investigation, the study moves from being monomethod to at least a partially mixed method, even if one of the research approaches is used only minimally” (Johnson & Christensen, 2004, p. 413). Because mixing among and between stages was occurring, this design was called a mixed model design rather than a mixed method design (Johnson & Onwuegbuzie, 2004). The qualitative methodology was dominant because research questions pertaining to how or why were being answered and the intent was to study a specific real-life situation laden with context and these are two hallmarks of qualitative research per Burns (2000) and Yin (2003).

With regard to intent, the intent of the study was not to operate from the locus of production or economic theory similar to Benkard (2000) or Thompson (2007). The intent of the study was to qualitatively understand where knowledge loss occurs, to

qualitatively examine the factors that promote or prevent knowledge loss, and to quantitatively explore its influences on contact center performance metrics. Its locus was more firmly situated in knowledge management practice and customer service/strategic management theory similar to Martin de Holan and Phillips (2004), Martin de Holan et al. (2004), and Downing (2004).

Downing (2004) used a mixed model nested case study design when exploring why contact center representatives had not embraced new knowledge management technology. Like this study, qualitative data were dominant and quantitative data were secondary. Downing may have selected a mixed model nested qualitative-dominant case study design because it not only worked for the research under study, but also because it supported his philosophical and phenomenological beliefs.

When designing a research study, the strategy is guided by the researcher's epistemological, theoretical, and methodological choices. In mixed methods research, the epistemological choice and how that shapes the research is influenced by pragmatism and pragmatic knowledge claims (Creswell, 2003; Tashakkori & Teddlie, 1998). That is, "pragmatists consider the research question to be more important than either the method they use or the worldview that is supposed to underlie the method" (Tashakkori & Teddlie, p. 21). Citing Patton (1990), Creswell said that "there is a concern with applications—'what works'—and solutions to problems" (p. 11, emphasis in original).

Qualitative Inquiry

Similar to the reasons why a researcher might select mixed methodology, the qualitative inquiry may be selected because it supports a philosophical orientation he or she has regarding the construction of knowledge. "Your beliefs about the nature of reality and how knowledge is constructed, in addition to the problem you have identified and the question(s) you seek to answer, determine the selection of your research design" (Merriam & Simpson, 1995, p. 99). In addition, in selecting qualitative inquiry, the researcher may subscribe to an interpretive view of learning where multiple realities and multiple ways of knowing are valid.

> The key philosophical assumption upon which all types of qualitative research are based is the view that reality is constructed by individuals in interaction with their social worlds. Thus, there are many realities rather than the one observable, measurable reality which is key to research based in the positivist paradigm. (Merriam & Simpson, 1995, p. 97)

In his study of learning from the past and the transferability of crisis leadership, Arnett (2007) indicated that a quantitative approach was not appropriate because "it could not be assumed that all the social realities of leadership are relatively constant across time and settings" (p. 79). Citing Gall et al. (2006), he added that "causal relationships among the social phenomena…could not be limited to perspectives that could only be analyzed by statistical methods" (p. 79). It is this way with the social realities of knowledge as well.

Another consideration, in addition to the philosophical assumptions held by the researcher, is the environment within which he or she operates. "Qualitative methods are especially well suited for investigations in applied fields such as adult education and

training because we want to improve practice" (Merriam & Simpson, 1995, p. 97). As scholar-practitioners or practitioners, there is a desire to identify ways to solve an immediate practical problem. Qualitative methods enable the practitioner to focus on the organic wholeness and context of the problem under study instead of only statistics. This again aligns with the reasons why this researcher, knowledge manager, and scholar-practitioner chose a mixed model qualitative approach. There was a what works best mentality as far as choosing the methodology in order to answer the research questions, as noted by Creswell (2003) and Tashakkori and Teddlie (1998), and there was the desire to investigate the issue organically and holistically beyond what a mono-method quantitative approach might yield. Moreover, there was a natural match in using a dynamic mixed model qualitative approach in the dynamic knowledge intensive environment of the contact center.

> Today's research world is becoming increasingly interdisciplinary, complex, and dynamic; therefore, many researchers need to complement one method with another, and all researchers need a solid understanding of multiple methods used by other scholars to facilitate communication, to promote collaboration, and to provide superior research. (Johnson & Onwuegbuzie, 2004, p. 15)

Using the Case Study for Qualitative Inquiry

There are different types of qualitative inquiry methods available to researchers. Given its ability to allow for rich contextual information to be collected and analyzed as evidence, the case study was the specific form of qualitative inquiry used in this study. Although there are other qualitative strategies available (e.g., experiment, survey, archival analysis, and history), selection of the case study aligned with Yin's (2003) guidelines: the form of the primary research question asks how, the focus is on

contemporary events, and it does not require the researcher to control behavioral events. Yin has said that that the "case study's unique strength is its ability to deal with a full variety of evidence—documents, artifacts, interviews and observations" (p. 8). Observation may be one of the most critical components of the case study. Yet Yin also noted that case studies can incorporate quantitative data and stated that "regardless of whether one favors qualitative or quantitative research, there is a strong and essential common ground between the two" (p. 15).

Yin (2003) and Merriam (1998) each discussed the inherent inclusion of context in qualitative case study research. Merriam stated that "a case study design is employed to gain an in-depth understanding of the situation and meaning for those involved. The interest is in process rather than outcomes, in context rather than a specific variable, in discovery, rather than confirmation" (p. 19). Yin added to this discussion of a process-based focus when he said that "the case study method allows investigators to retain the holistic and meaningful characteristics of real-life events—such as individual life cycles, organizational and managerial processes, neighborhood change, international relations, and maturation of industries" (p. 2). When researching contact centers using the qualitative approach, van den Broek (2004) stated:

> The focus on qualitative research derived from a concern to capture the specific processes around the implementation of labour management practices rather than a broad picture of trends (Yin, 1984). Incorporating employees' and managers' own accounts of the policies and practices adopted within the two telecommunications organizations reinforces this strength. (p.5)

Two additional examples illustrate this connection between the need for context and the decision to use a qualitative case study approach. In the first example, Rosenblatt

(as cited in Gilbert, 2001) noted that knowledge is "always provisional and inseparable from the linguistic, social, and other contexts in which it arises" (p. 127). Because knowledge and knowledge loss were key points of examination in this study, the ability to weave contextual information into the entire process was powerful. In the second example, from a knowledge management perspective, Guba and Lincoln (as cited in Merriam, 1998) said that because the case study is so contextual, it "illuminates meaning and can communicate tacit knowledge" (p. 39). Illuminating tacit knowledge may seem to be a stretch, but the holistic representation and contextual information afforded by case study research and the resulting case study report do have the ability to allow readers to take an in-depth journey into a process or situation.

Even after the application of the case study is determined, researchers still have choices to make regarding the intent of the case study and whether the study will be a single-case study or a multi-case study. To discuss intent further, Merriam (1998) listed description, interpretation, and evaluation as possible intents of a case study. In the descriptive case study, which was the case study approach employed here, the researcher's goal is to provide key details that accurately represent the situation. Downing (2004), who studied adoption of knowledge management tools in the contact center environment, successfully used the descriptive case study methodology to showcase that tools faced adoption challenges because they impacted the agents' workplace identities and decision-making capabilities and were often introduced in beta versions, which reduced the efficacy of the tools as being useful resources for the agents. In a descriptive case study, the focus is not hypothesis application or hypothesis

generation. Rather, the case is descriptive and the researcher aims to present information in an area of limited literature and limited research. As noted in chapters 1 and 2, literature on knowledge loss is limited.

It could be argued that there is an element of interpretative intent with this study. Per Merriam (1998), the interpretative intent has at its core the desire by the researcher to explore theoretical assumptions and offer hypotheses. "The level of abstraction and conceptualization in interpretive case studies may range from suggesting relationships among variables to constructing theory" (p. 39). In this study, the relationships between accidental and purposeful forgetting, leadership support, reinforcement, and adaptability to change were researched. Arnett (2007) used a qualitative research design that was part interpretative and part narrative, demonstrating that elements of both can effectively combined.

Yin's (2003) guidelines helped the researcher determine whether a single-case or multi-case was applicable. Yin specifically provided five rationales for selecting the single-case. If, as a single unit of analysis, the case can challenge or extend a theory, it would be considered a critical case. If the situation under study is unique or rare, a single-case study is usually warranted. The single-case is also applicable to situations that are representative of other situations. That is "lessons learned from these cases are assumed to be informative about the experiences of the average person or the average institution" (Yin, p. 41). The last two of the five rationales include access to a case study situation by the researcher, which Yin calls relevance, and longitudinal cases where one situation is studied at different points in time. Researchers select multi-case studies, often called

comparative case studies, cross-case, or collective case studies (Merriam, 1998), because they have access, they have time and resources, and because the nature of the study is strengthened by the ability to analyze multiple variations of the same phenomena (Herman, 2006). This was a single-case study with one organization. The assumption was made that this contact center was generally representative of other contact centers and as such met the guidelines to select as a single case per Yin's rationale.

Limitations of Mixed Model Case Study Research

Limitations of mixed model research include challenges with integrating disparate qualitative and quantitative data in the analysis and interpretation phases as well as reconciling incongruities between the two. For the nested design, however, Creswell and Plano Clark (2007) stated that its intent is "not to converge two different data sets collected to answer the same question. Researchers using a [nested] design can keep the two sets of results separate in their reports" (p. 70). The quantitative approach used in this study answers a different question than the qualitative approach.

What remains an issue is that there are limited guidelines for researchers to follow when any situations arise in mixed model research (Creswell, 2003). Moreover, Creswell and Plano Clark (2007) have noted that "few examples exist and little has been written about embedding quantitative data with traditionally qualitative designs" (p. 71). By that very nature, this study contributes to the gap in guidelines by offering other researchers another example of a mixed model nested design where quantitative data were included within a larger qualitative study.

The researcher entered the study with a full awareness of the limitations of mixed model research. Where appropriate, there was reliance on the guidelines of Creswell (2003), Creswell and Plano Clark (2007), and Tashakkori and Teddlie (1998) for the data collection, analysis, and interpretation stages. In addition, there were examples from the literature review where qualitative methodology played a dominant role and quantitative methodology played a secondary role (Downing, 2004; Kinnie et al., 2000; Miles & Huberman, 1994; Senne & Rikard, 2002; Yin, 2003).

Limitations of case study research include the issue of generalization, bias due to the researcher's proximity to the participants, and time constraints to complete a thorough case study. Critics question how generalizations can be made based on one case. Burns (2000) and Yin (2003) responded to this criticism with a discussion about the nature of the case study. Case studies are generalizable to theory or theoretical propositions and not to people. As such, the goal is to focus on extending theoretical information rather than presenting statistical analysis. Yin cited Lipset, Trow, and Coleman (1956), "The goal is to do a generalizing and not a particularizing analysis" (p. 11).

Another criticism of case study research involves bias because the researcher is so closely involved with the research and the research participants. As noted in chapter 1 and noted at the outset of this section, the guidelines provided by Yin (2003) and Merriam (1998) were followed to mitigate any perceived bias. Both of those authors recognized the issue of bias, but Merriam countered the criticism:

> And because human beings are the primary instrument of data collection and analysis in qualitative research, interpretations of reality are accessed directly through their observations and interviews. We are thus 'closer' to reality than if a data collection instrument had been interjected between us and the participants.

> Most agree that when reality is viewed in this manner, internal validity is a definite strength of qualitative research. (p. 203, emphasis in original)

Validity (internal, external, construct) is often listed as one of the concerns about case study research in addition to reliability (Burns, 2000; Hittleman & Simon, 1997; Merriam, 1998; Yin, 2003). These are key issues that all researchers, quantitative or qualitative, should share as concerns. Fortunately, the body of literature that exists to help researchers tackle these concerns is broad, and the authors noted above offer suggestions. Merriam, for example, said that case study researchers can enhance internal validity though triangulation (multiple sources and multiple methods to confirm information), continuous checks with the participants to ensure appropriate interpretation, repeated observations, peer feedback, and participant involvement throughout the research cycle.

Time is an issue with case study research and is often noted as a weakness. Yin (2003) and Burns (2000) added the issue of unreadable documents and information to the time criticism. Yin thought that case study reports have historically not been well written. Burns thought that the possibility exists for too much information to be collected. To assist researchers who are struggling with time, information, and report issues, Burns indicated that "the solution lies in choosing a manageable focus/theme/topic, specifying succinctly the initial proposition, identifying the essential observational settings and/or interviewees, and analyzing data as it comes rather than leaving it to the end" (p. 475).

As noted with the mixed methodology, the researcher entered the study with a full awareness of case study research weaknesses. Where appropriate, there was a reliance on the guidelines of Yin (2003) and Merriam (1998) to mitigate the limitations of the case study.

Additional limitations specific to this case study were discussed in chapter 1. Of note is that this study used the mode of forgetting matrix created by Martin de Holan et al. (2004) as its conceptual framework. Although included in the original study published by Martin de Holan et al., it did not appear that this framework had been further applied to any other knowledge loss situation in any other organizational environment. There was a risk that the application of the matrix would not yield the ability to identify specific areas of knowledge loss in the contact center, but this did not bear out in the actual research. Applying the matrix to areas of loss identified in the contact center did enable identification of specific loss areas.

Role of the Researcher

Because of the qualitative nature of the study and because semi-structured interviews and onsite observation were dominant, primary components of the study, the researcher was the principal instrument involved in the collection of data. Interviews, in particular, were central to the study given that culture was one of the items considered as part of the overall context of the case. As van den Broek (2004) noted, "Undertaking such interviews was essential to understand how cultural initiatives were implemented and received at workplace level. Similarly attendance at team meetings allows for direct observation of managerial and employee communication, as well as inter-employee behavior" (p. 5).

The researcher conducted all introductions and orientations to the case, conducted all of the interviews, and had sole responsibility for reviewing supporting evidence such as performance metrics. In addition, the researcher analyzed all obtained information and

was singularly responsible for the overall conduct of the case study from initiation through completion.

Recommendations and guidelines outlined by Yin (2003) and Merriam (1998) were used when conducting the case study research to mitigate researcher bias and case study limitations. Moreover, the researcher used as qualitative models the previous research conducted by Martin de Holan and Phillips (2004) and Martin de Holan et al. (2004) for application of the mode of forgetting matrix and used as mixed method models the previous research conducted by Downing (2004), Kinnie et al. (2000), and Senne and Rikard (2002) among others, to appropriately integrate the qualitative and quantitative aspects of the study and report the outcomes in a clear, concise manner.

Creswell (2003) noted that researchers should "explicitly identify their biases, values, and personal interests about their research topic and process" (p. 184). Because this researcher currently works in a contact center organization and has 5 years of experience in that setting, there may be bias toward the processes and procedures used in the contact center under study. Evaluating those processes and procedures against the researcher's current contact center environment was outside the scope of this study. By validating onsite observations with the participants involved in the study and by adhering strictly to interpretation of direct interview material and validating those interpretations with the participants, this bias was minimized.

When working to determine possible cases to study, the researcher was able to locate an inbound contact center. An inbound contact center means that callers needing or using its services proactively contact the center through one of its contact channels rather

than the contact center agents placing outbound calls to customers. The researcher does have a bias against outbound sales and marketing contact centers because of a seemingly more aggressive relationship with the customer. The availability of the case and the agreement of the manager to work with the researcher precluded her from having to solicit an outbound contact center organization. However, this bias is made known.

As far as personal interests, the natural selection of the dissertation topic would seem to indicate an interest in said topic. As a knowledge management practitioner and as a contact center program manager, there is a natural interest held by the researcher in the field of knowledge management and in the contact center as a somewhat unique organization. To ensure that the passion of these personal interests did not impede the honest and ethical reporting of the data, information was validated with the participants involved, which Creswell (2003) refers to as member checking. In addition, guidelines provided through Johnson and Christensen's (2004) discussion of reflexivity, which are to engage in critical self-reflection about personal biases and predispositions throughout the study, were followed.

About the Case Under Study

To initiate this case study, it was necessary to identify a contact center organization that was willing to participate in the study and that was geographically situated in an optimal location for the researcher. The organization needed to be within a 5- to 6-hour driving distance from the researcher's home in the midwestern United States, so that she was able to easily commute to and from the organization during site visits without needing to expend significant monetary resources for travel. Although there were

elements of convenience sampling, where a sample is selected based on "time, money, location, availability of sites or respondents, and so on" (Merriam, 1998, p. 63), network sampling, where a researcher asks other people related to the topic under study to recommend potential participants, was used to identify contact centers that would possibly sponsor the study. E-mails were sent to known contact center professionals seeking the names of contact center organizations and contact center individuals that might be willing to participate in this study. Although not used, the services of the Customer Contact Council and the International Customer Management Institute were available to locate possible participants and contact had been made with both organizations in case that situation was realized.

There were no contact centers that were considered too small or too large for the study; however, in larger contact centers, there would have been a greater majority of the population that would not have been able to participate in the study given the limited time and number of participants who could have been accommodated. Other than providing an optimal geographic location relative to the midwestern United States and providing access for the researcher, no other primary constraints were placed on the contact center that participated in the study.

Based on those parameters and based on convenience and network sampling, one contact center organization was identified and the manager of that contact center agreed to participate in the case study. A Letter of Cooperation and a Data Use Agreement form were retained from the organization in accordance with Walden University Institutional

Review Board (IRB) policies. To protect the identity of the contact center under study, the name and specific city and state location of the organization are not included.

Located in the midwestern United States, this contact center comprises 1 manager, 2 supervisors, 1 team lead, 8 agents (called product support specialists), 2 knowledge team members, and 4 systems support technicians. Although it has satellite locations in two other areas of the Midwest, only the primary location was visited during the research. This contact center operates as an inbound information services/technical support helpline for state-based educational services software projects. It supports over 120 different projects. Rather than specializing on a handful of projects, the agents are trained to be generalists and support all projects. This contact center does use a knowledge management tool on its agents' desktops called Kaidara Advisor, a product of Kaidara Software, Inc. Use of a knowledge management tool was not required for participation in the study, but it did offer the ability to infer relationships with other evidence in the case.

Access

During the dissertation proposal stage, the contact center manager agreed to provide onsite access to the researcher and a Letter of Cooperation was retained. Access in the organization was supervised by the manager and was restricted to only the common areas of the organization and the specific contact center department. The researcher was granted visitor badge access and was accompanied by an escort when traveling to and from the common areas to the specific department. The researcher was required to sign in and out from the building by entering at the front desk, signing a logbook, contacting the

escort, and then being escorted to the department. Upon completion of the day's site visit, the researcher was required to be escorted back to the front desk, sign out of the logbook, and exit the building.

Although telephone contact was initiated with the manager at the site under study to ensure her participation, and by proxy the participation of her contact center team, in the doctoral dissertation, and a Letter of Cooperation and a Data Use Agreement form were signed in accordance with Walden University IRB policies, a reintroduction between the manager and the researcher was necessary at the outset of the study because of the elapsed time between initial contact and final IRB approval (approval number 12-19-08-0257791). Moreover, it was necessary to reorient the manager to the purpose of the study, as well as the time and participation necessary for the study. During this initial reintroduction, scheduled access to the pertinent site location was determined.

The reintroduction also included a review of the consent form that all participants, including the manager, had to sign. Explanation was provided regarding the need for the participant to sign the consent form, that participation was voluntary, and that no pressure was to be placed on the participant to participate in the interviews or onsite observations. The consent form was created using a template from the Walden University IRB website, customized for the study, and modified and approved by the case study sponsor's contracting officer during the proposal stage.

Although a schedule was agreed upon at start of research, the schedule changed as dictated by call volume, business unit needs, and the unpredictable Midwest weather that produced some snowstorms during the research period. Flexibility in scheduling was

necessary to accommodate the interviews, which required agents to be taken off the phones. The researcher collected quantitative performance metrics for analysis and observed agents taking calls with the Data Use Agreement in place in addition to conducting interviews.

The manager agreed to allow access to her organization in good faith for the explicit reason of conducting dissertation research. There was no requirement to sign any organizational documents other than the daily logbooks. To reciprocate this extension of good faith on the part of the manager, a research design was selected that included the highest measures of ethical protection for the participants.

Case Study Participants

The participants of the case study included the sponsor of the study, which was the contact center manager, and the supervisors, the team leads, the agents, the knowledge team members, and the systems support technicians. The manager reserved the right to select the participants for the study. Although this introduced bias into the study because the manager might not have selected participants with known performance issues, and whose performance issues might somehow be related to knowledge loss, the researcher did not impose participant selection criteria on the manager provided that sufficient numbers of participants from each of the areas noted were made available to engage in the research.

Sample

Merriam (1998) noted that the "question of how many people to interview, how many sites to visit, or how many documents to read concerns—more likely haunts—the

novice qualitative researcher" (p. 65) Using a homogenous sample selection (Johnson & Christensen, 2004), the sample consisted of those employed directly in the primary contact center site as manager, supervisor, team lead, agent, knowledge team member, or systems support technician with two exceptions. One member of the knowledge team and one team lead, both located in two separate satellite locations, participated in the study. The contact center manager recommended that the satellite knowledge team member be interviewed and one of the supervisors recommended that the satellite team lead be interviewed. Martin de Holan and Phillips (2004) interviewed 78 participants in a longitudinal study that lasted 4 years. Downing (2004) interviewed 47 participants within a 1-year period. Cross et al. (2008) interviewed 12 participants over a 2-week period. Given that this was not a longitudinal study and given that this was a doctoral dissertation that had to be completed in a finite amount of time, the researcher initially determined a sample of 16, which consisted of 1 contact center manager, 5 support staff (knowledge team members and system support technicians), and 10 agents for participation in the face-to-face interviews. The manager subsequently allowed and encouraged all of the contact center staff available in the primary location to participate in the research including the two employees at the satellite locations, which resulted in 20 total participants being interviewed: 1 contact center manager, 2 supervisors, 2 team leads, 3 knowledge team members, 4 systems support technicians, and 8 agents. All participants except the two working at the satellite locations were interviewed in person. The satellite participants were interviewed by telephone. Regarding observation, the researcher observed a random sample of participants in their natural settings over several days for a

total of 16 hours of observation. Regarding documentation, the researcher reviewed the introductory training materials for one project and read some e-mails sent from management to employees during the onsite observation.

Consent and Confidentiality

Participants were asked to sign a consent form that explained the following aspects of the study: procedures involved in participation (e.g., meeting in a conference room and being asked a series of open-ended questions or having someone observe them while they were on a customer call), voluntary participation, risks and benefits of participation, compensation (none), and confidentiality. For the two interviews that occurred via telephone, signed consent forms were obtained via mail. All other consent forms were obtained in person at the time of the interview.

During the research, participants were asked for permission to digitally record the interview for the purposes of explicitly preserving the information and enabling an electronic copy to be created by a transcriptionist, whose services were retained and who signed a confidentiality agreement. All participants agreed to the digital recording so it was not necessary to rely solely on handwritten notes of the participants' responses to the interview questions. The digital recorder failed to capture one interview in its entirety. For that particular interview, the handwritten notes were used. Transcribed interviews were not directly shared with the manager but were shared with the individual participant as part of the member checking process, which is discussed more in detail in chapter 4. This was another measure that helped protect the individual confidentiality of the participants.

The researcher captured the names of the participants expressly for the purposes of keeping a participant log to ensure scheduling and interviewing of all participants and for asking any necessary clarifying questions either after the interview or once analysis had commenced. Participant names are not included here; job titles are used for identification purposes (e.g., manager, supervisor, team lead, knowledge team member, systems support technician, agent) where necessary. In order to protect the privacy of the participants given the small sample size, which mirrors the relatively small size of this contact center team, the generic term participant is primarily used.

Tenure (length of service in the contact center department) was also used to classify participants. As noted in chapter 1, although turnover has been found to be a significant factor that contributes to knowledge loss, this study focused on knowledge loss that occurred with agents and organizational members with more permanent tenure. That is, this research was more focused on knowledge loss due to a changing environment with workers that persist in the organization. Because of this focus, it was necessary to explore the various tenures of the agents. Tenure is discussed in aggregate in chapter 4 so that individual participants can not be identified.

Data Collection

Although a concurrent approach to collect qualitative and quantitative data was used with respect to this mixed model design, for explanatory purposes in this chapter, the data collection processes and techniques are discussed sequentially, with qualitative procedures discussed first following its dominant role in the design and quantitative procedures discussed second following its secondary role in the design. Creswell and

Plano Clark (2007) have cautioned that bias can be introduced through concurrent data collection and researchers must be aware of this possibility. Because data were being gathered to answer different research questions in this study, steps were taken to minimize this bias, but the researcher still entered into the data collection process with awareness that bias could have been introduced at this point in the study. Data collection did not begin until official notification to commence research had been received from Walden University IRB.

Qualitative Data Collection

Qualitative data collection occurred through semistructured individual interviews with the participants, through onsite observation of live inquiries through the contact center channels and the agents' use of desktop tools, job aids, and knowledge management support structures, and through review of some documentation that included training materials and e-mails from management and other agents. The qualitative data collection efforts were focused on answering these two research questions: Where did knowledge loss occur at the individual and/or organizational level? What were the contributing factors?

The interview format was used to probe perceptions of knowledge loss among participants and their perceptions of where knowledge loss manifested itself in their contact center and what factors they thought might contribute to knowledge loss. Onsite observation and some review of e-mail and training materials were used to understand the factors that might have promoted or prevented knowledge loss in the center. All of the data analyzed were applied to Martin de Holan et al.'s (2004) mode of forgetting matrix,

shown in Figure 1, to identify specific areas of the contact center where knowledge loss occurred. Contact information for Martin de Holan was located, and he was contacted about the possibility of incorporating the matrix in this study in order to explain knowledge loss. Martin de Holan responded that this was acceptable under fair use doctrine and suggested that permission be obtained from either *MIT Sloan Management Review* or *Management Science*. Because the article in *MIT Sloan Management Review* included an illustration of the matrix, permission was requested and granted from this publication. A copy of the e-mail approval is included in Appendix A.

On a more granular level, the focus of the research was on themes of knowledge loss (accidental and purposeful forgetting as well as the source of knowledge) directly related to the dimensions illustrated in the mode of forgetting matrix: memory decay, failure to capture, unlearning, and avoiding bad habits. Organizational culture (leadership support, reinforcement, adaptability to change), and knowledge and learning management (impediments to knowledge flow and diffusion) were also generally explored during the qualitative data collection process.

Interviews and instrumentation. Participants were interviewed either in a private office or in a private area of the cafeteria. A total of 20 interviews were conducted (18 face-to-face and 2 via telephone) yielding 16.5 total hours of interview data. One data collection instrument was used for the interviews and this instrument is located in Appendix B. Given the specific themes that were explored, questions were generally grouped into categories of demographics and job duties, contact center environment, knowledge access and need, and knowledge loss. Questions were both created by the

researcher and collected from other relevant research. Questions collected from other research include appropriate author citations immediately following. Nelson's (2007) recent case study research on knowledge management provided a wealth of pertinent questions that were also applicable to this study. Permission to use these questions for the purpose of this research was granted by Nelson and a copy of the e-mail approval is included in Appendix A.

The focus of the demographics and job duties portion of the interview was to collect tenure information, obtain an understanding of previous experience, and to have participants describe their roles, responsibilities, and typical day in their own words.

Table 1
Demographics and Job Duties Interview Questions

How long have you been with the organization in your current role?
What previous background and experiences do you bring to this particular position?
What do you see as your primary role and responsibility in this position?
Describe a typical workday.

The focus of the contact center environment portion of the interview was to understand the contact center's culture, leadership support, and performance measurements. It also offered an opportunity to discuss issues that provided additional insight into the culture and the overall environment.

Table 2
Contact Center Environment Interview Questions

Tell me about the kind of leadership support that you receive in your position from your manager and/or the organization.
What are the top three issues that are impacting your work environment today?
What knowledge, information, and/or tools do you need to be successful in your job and how do you define success?
What knowledge, information, and/or tools do others in your department need to be successful in their job and how do you define success for those people?
Tell me about how your performance is measured or monitored.
Tell me what you would need from the people, tools, and/or knowledge available to you in this job to perform better.

The focus of the knowledge access and knowledge need portion of the interview was to identify what information was necessary, how that information was obtained, who was involved, and a discussion of the challenges. All of the questions in this portion were obtained from Nelson's (2007) study.

Table 3
Knowledge Access and Knowledge Need Interview Questions

What is the source of information and how do you access it?
If you have questions, where do you go for answers?
Who regularly asks you questions? What types of questions are asked?
Who do you interact with most frequently (i.e., what individuals or departments) and for what reasons?
What type of knowledge do you find or would you find valuable in helping meet your department's mission and objective (i.e., what would make your job easier)?
What is the most important type of knowledge, information, or data the organization could provide that would give you the greatest benefit overall on a day-to-day basis?
What do you view as the most significant challenge to obtaining and managing the knowledge you need to accomplish your assigned duties?

The focus of the knowledge loss portion of the survey was to identify which dimensions of knowledge loss, as outlined in Martin de Holan et al.'s (2004) mode of forgetting matrix, were occurring and in what way.

Table 4
Knowledge Loss Interview Questions

What amount or percentage of your time do you spend finding knowledge for others in your department? In your organization? (Nelson, 2007)
Tell me about a time when you weren't sure how to complete a task or answer a call. What happened?
Tell me about a time where you forgot how to do something on the job. What was it and what did you do?
How do you share what you know with other coworkers? For example, if you learn something new while helping a customer, how do you let other coworkers know so that they can help a customer in the same situation?
How is your performance measured on your ability to answer customer questions correctly and completely? How do you ensure that that knowledge you have is current?
How do the people, processes, and tools that you use ensure that you have the knowledge you need to do your job?
Describe a situation where the answer to a customer question may have changed because new information was known about the problem. How did you remember this new information? How did you forget the old information?
How fast do you feel the answers to customer questions change? How do you handle these changes?
Tell me about the administrative aspects of your position as far as collecting customer information or recording the specifics of a call. How are these aspects measured or monitored as part of your performance?
How do you know which administrative processes to follow in your job? What happens if the processes change? How do you know?
Describe any other examples that you feel are related to forgetting information on the job or not having the information that you need to answer questions and perform well?

Interview questions were validated by conducting pilot interviews at the contact center where the researcher works. This ensured that the actual case study participants did not have difficulty understanding the questions and allowed the researcher to gauge the average time of an interview. It also allowed for interviewing practice. Merriam (1998) observed that pilot interviews enable researchers to "quickly learn which questions are confusing and need reworking, which questions yield useless data, and which questions, suggested by your respondents, you should have thought to include in the first place" (p. 75). Results from this pilot showed that a 1 hour time allotment was sufficient for the interview and that no questions required amendment.

Onsite observation. The researcher sat with contact center agents and observed their interaction with desktop tools while also listening to calls through a headset connected to the agent's phone. The purpose was to observe the agents' use of the tools, identify areas where the agents may have had difficulty in accessing knowledge items, and, in general, and observe the agents' interactions with others in seeking information and sharing information. In addition, the researcher listened to the affective queues of the caller to determine whether the knowledge provided by the agent met the caller's needs. An observation form (Appendix C) was used to capture the actions of the agent. Sixteen hours of side-by-side observation yielded 63 unique calls. Personally identifying information about the caller was not captured as that information was not relevant to this study.

Documentation review. Reviewing documentation can better contextualize and deepen the research (Treleaven & Sykes, 2005). The researcher reviewed training

documentation for the agents on a new project. During onsite observation, the researcher was also able to look at some e-mails that the agents and support staff received from management to better understand the communication styles and patterns that were used, which can be a reflection of the organizational culture.

Quantitative Data Collection

Quantitative data collection occurred through receipt of both productivity-based and quality-based performance metrics captured for the contact center for a specific period in time. The quantitative data collection efforts were focused on answering the third and final research question: How did knowledge loss influence the contact center's productivity and quality metrics? The quantitative data collected for this study were used as a point of triangulation for the qualitative data. As such, the data were not empirically tested against a hypothesis or null hypothesis.

Performance metrics. Although the initial intent was to use the *t* test for independent samples to determine statistical significance between average handle times, first call resolution percentages, transfer percentages, and call topic frequency, the organization was limited in the data it could provide. The data that were received were aggregated data related to the following productivity-based performance metrics: average speed of answer, average after call time, and average handle time, which were provided in a monthly average. That is, the monthly average for speed of answer for March, April and May were provided. The one quality-based performance metric that was provided was related to first call resolution. The top five call topics were also provided along with attrition percentages. Therefore, rather than using inferential statistics, descriptive

statistics were used where the "researcher attempts to convey the essential characteristics of the data by arranging the data into a more interpretable form" (Johnson & Christensen, 2004, p. 434). The data that were provided still allowed the researcher a point of triangulation with the qualitative data.

The collected quantitative data were for all agents and not just those agents who participated in the qualitative interviews. This is common in mixed methods research and is often why a researcher employs the nested design as noted earlier in this chapter. While necessary to interview agents to obtain the contextual aspects of knowledge loss, it was not as necessary to match performance metrics with an individual agent to explain any possible influences between knowledge loss and performance. Moreover, by looking at quantitative numbers for the entire center, it broadened the scope of the analysis and provided a more comprehensive picture of the contact center's performance as a whole.

Data Analysis

The qualitative and quantitative data analysis process was ongoing concurrently throughout the research cycle. While the researcher was coding the qualitative data by listening for themes during the interviews and observations and by looking for themes when the transcriptions were available, she was also reviewing the quantitative performance metrics for insight and significance. The three-step process for mixed method analysis outlined by Creswell and Plano Clark (2007) was used. First, coding and theme development was completed for the interviews while descriptive analysis was completed for the performance metrics. Second, in this nested design, the datasets were merged and "the supportive dataset [was used to] reinforce or refute the results of the

primary dataset" (p. 136). Third, the researcher answered the research questions using the merged data. As in the data collection section, the qualitative data analysis is discussed first in this chapter followed by the quantitative data analysis.

Coding Qualitative Data

Noting patterns and themes in the interviews and the onsite observations was the primary method of coding the qualitative data. Miles and Huberman (1994) noted that this approach works well with text-based resources, such as the qualitative interviews that were transcribed and the onsite observation notes that were written during the course of this study. Downing (2004) was successful in coding qualitative data from interviews using a theme-based approach, which provided a practical example of Miles and Huberman's recommendations. He created a descriptive table that illustrated the key themes that were identified, provided descriptions of each theme, and included the total number of different employees making comments related to the theme. He then provided interpretative information about the themes that were identified in relation to the organization in total (supporting documentation, culture), which also provided recommendations for further research.

Miles and Huberman (1994) recommended using words rather than numbers to conduct coding and pattern matching; therefore, the following primary categories were used to code information based on the purpose of the study, the research questions being asked, the interview questions, and the application of the mode of forgetting matrix as the conceptual framework: culture, knowledge, and performance. Within each primary category, there were subcategories. For culture, the subcategories included contact center

environment, corporate customs, economic conditions, leadership support, and organizational change. For knowledge, the subcategories included avoiding bad habits, failure to capture, memory decay, training, transfer, and unlearning. For performance, the subcategories included customer satisfaction, evaluation, standards, success, and technology. Table 5 lists the categories and subcategories that were used in the coding process along with the description of each category.

Table 5
Qualitative Coding Category Descriptions

Category	Description
Primary Category 1: Culture	Events or circumstances that shaped attitudes, values, assumptions and traditions
Subcategories:	
Contact center environment	Event or circumstance primarily driven by the nature of the work; of specifically doing business as an inbound contact center
Economic conditions	Event or circumstance primarily driven by the current economy (e.g., reduction in state education budgets)
Corporate customs	Event or circumstance primarily driven by the corporation (e.g., new timekeeping system, new project implementation)
Leadership support	Event or circumstance primarily driven by managerial or supervisor support in the execution of tasks
Organizational change	Event or circumstance primarily driven by reorganization of personnel

table continues

Category	Description
Primary Category 2: Knowledge	Evidence of knowledge acquisition, use, transfer, and loss
Subcategories:	
Avoiding bad habits	Adherence to or deviation from standard operating administrative procedure
Failure to capture	Evidence of standard or routine knowledge that was readily available to the participants, but not transferred
Memory decay	Events that occurred related to forgetfulness, whether accidental or purposeful
Training	Formal and informal events used to assist staff with acquiring knowledge
Transfer	Actions where participants explicitly engaged in exchanging knowledge
Unlearning	Actions that exhibited noncompliance with provided operating procedures or directions or exhibited resistance to new knowledge
Primary Category 3: Performance	Measures of success, evaluation procedures, standards, supporting technology, and customer satisfaction
Subcategories:	
Customer satisfaction	Evidence of customer satisfaction whether anecdotal or data driven
Evaluation	Evidence of individual and team performance ratings and feedback

table continues

Category	Description
Primary Category 3: Performance	Measures of success, evaluation procedures, standards, supporting technology, and customer satisfaction
Standards	Evidence of performance standards and expectations
Success	Definitions of success for individuals, team, and company
Technology	Use of technology to foster performance

Coding was handled manually using paper copies of the transcriptions. Data were subsequently clustered together electronically so that they could be reviewed in aggregate by category and subcategory. Where necessary during coding, marginal notes were used to highlight specific subcategories. The selected categories enabled identification of knowledge loss themes, possible causes and explanations, and individual, team, and corporate relationships that had both cultural and environmental overtones. Although the use of qualitative data analysis software was considered, it was deemed not necessary given that the thematic analysis techniques outlined by Miles and Huberman (1994) and successfully used in practice by Downing (2004) was sufficient. It was understood that there were weaknesses to this approach that paradoxically had knowledge loss overtones:

> Nevertheless, data reduction processes necessarily involve abstraction, inevitably losing some of the situated and practical knowledge embedded in narrative forms, and thereby reflexively exhibit the very nature of knowledge loss through organizing that the study itself investigates. (Treleaven & Sykes, 2005, p. 359)

The researcher cross-referenced the identified themes with Martin de Holan et al.'s (2004) mode of forgetting matrix, shown in Figure 1, to identify specific dimensions

or areas of knowledge loss in the contact center. This identification can lead to stronger knowledge management models for the contact center because it can help those organizations pinpoint areas of loss.

Validity and reliability. Miles and Huberman (1994) stated that "qualitative analysis can be evocative, illuminating, masterful—and wrong." Therefore, it was important during the analysis stage to ensure standards of quality were kept at the forefront and that those standards were met. To this end, Merriam (1998) provided researchers with strategies to enhance validity and reliability. The strategies employed here regarding validity included triangulation, member checks, and disclosure of researcher bias. Three different audiences (manager, agent, and support staff) were used as a way to confirm the emerging findings. Moreover, continuous checks with the participants were used to ensure appropriate interpretation. This included rephrasing the participant responses during the qualitative interviews to ensure accuracy and providing copies of the transcribed interviews for participant review as another way to ensure that the provided responses were accurately captured. In addition, the findings were discussed in aggregate with the case sponsor (i.e., the contact center manager) for additional triangulation. Throughout the dissertation, the researcher made biases known and clarified the epistemological, theoretical, and methodological decisions that shaped this study.

The strategies employed here regarding reliability included use of a standard interview form (Appendix B), a standard onsite observation form (Appendix C), and a

careful and detailed accounting of the data collection and analysis process, which serves to guide other researchers wishing to replicate this study.

Interpreting Quantitative Data

Performance metric data provided by the organization included the following productivity-based performance metrics: average speed of answer, average after call work, and average handle time. The one quality-based performance metric that was provided was related to first call resolution. The top five call topics were also provided along with attrition percentages. The data were arranged into a more interpretable form for triangulation with the qualitative data (Johnson & Christensen, 2004). This means that frequency distributions were calculated for the call topics and averages were calculated for average handle time, after call work, and first call resolution.

As in many mixed model approaches, another factor of the quantitative data analysis was that the data were qualitized, which means that one "converts quantitative data into narratives that can be analyzed qualitatively" (Tashakkori & Teddlie, 1998, p. 126). For example, call topics were qualitatively categorized from the quantitative data and were compared to themes found in the qualitative coding and analysis. The quantitative data collected for this study were used as a point of triangulation for the qualitative data. As such, the data were not empirically tested against a hypothesis or null hypothesis.

Validity and reliability. Because the quantitative data were analyzed from a qualitative perspective, a primary strategy employed regarding validity was member checking directly with the case study sponsor. The case study sponsor, who was the

contact center manager, reviewed the analysis results and confirmed that the findings seemed appropriate given all of the data. Although the researcher could not independently confirm the reliability of the performance data that were provided by the organization, the raw data were in alignment with identified metrics and appeared appropriate.

Chapter Summary

Chapter 3 described how the design of this study enabled exploration of knowledge loss's influence on contact center performance metrics, identification of what factors contribute to knowledge loss, and identification of specific knowledge loss dimensions present in the contact center using Martin de Holan et al.'s (2004) mode of forgetting matrix.

This chapter included a discussion of the mixed model case study methodology that was used in the research, the role of the researcher in the process, detailed descriptions of the cases and participants under study, data collection procedures, data collection instruments, and finally a description of the data analysis procedures. Chapter 4 contains the results of the study based on analysis of the qualitative and quantitative data collected from the field research, while chapter 5 includes a summary of the study, the conclusions that were drawn, recommendations for further research, and implications for social change.

CHAPTER 4: CASE STUDY RESULTS

Introduction

The design selected to address the research questions was a mixed model case study that enabled an exploration of the subtleties, nuances, and contextual situations inherent in knowledge management processes, including knowledge loss and knowledge discard, which are intimately connected to organizational culture, organizational change, and human involvement. The primary research question asked about knowledge loss in the contact center and the operational impacts. More specifically, three subquestions associated with this primary question concerned where knowledge loss occurred at the individual and/or organizational level within the chosen organization, what the contributing factors were, and how it influenced the contact center's productivity and quality metrics.

This chapter begins with a summary of the field research activities that contributed to the body of knowledge that was available for analysis. Results are then discussed through the three broad categories of culture, knowledge, and performance. Within these three broad categories, specific findings are shared that show where loss occurred at the individual and organizational level, what factors promoted and prevented the event, and the relationship between loss and performance.

Field Research Activities

Upon notification of approval to conduct research from Walden University IRB, data collection or field research commenced at the site under study on January 12, 2009. This start date was approved by the case study sponsor. Between January 12, 2009 and

January 30, 2009, a total of 20 interviews were conducted (18 face-to-face and 2 via telephone), 63 unique inbound calls were observed with various agents, and 3 months of performance metric data were provided for the center's most recent spike or high call volume period, which was March through May of 2008. The researcher also reviewed training materials for a new project and reviewed some e-mails sent between management and staff. The majority of the interviews occurred during the first week while observations and documentation review occurred primarily during the second and third week of field research. Performance metric data were provided at the conclusion of the field research window.

Interviews and Transcriptions

Based on the pilot of the interview questions, in which the interviews averaged 1 hour each, and the case study sponsor's desire to keep the 1 hour average intact as much as possible during field research, the researcher focused on that duration but did not cut participants off at the 1 hour mark. For example, the average duration of the interviews was 51 minutes but three interviews exceeded the 60 minute mark with the longest interview lasting 91 minutes. The shortest interview lasted 30 minutes.

As interviews concluded, digital recordings were hand delivered to the transcriptionist on CD-ROM. She began returning completed transcriptions in early February. As transcriptions were returned via e-mail in a Microsoft Word format, they were checked for content. For example, if the transcriptionist had noted that a portion of the recording was inaudible, the handwritten notes from the case study interview form were pulled and reviewed to determine if that portion of the recording could be

reconstructed. This was successful in many of the cases. Overall, the quality of the digital recordings was superior and there were very few instances where a participant's response was inaudible. The digital recorder failed to capture one interview in its entirety. For that particular interview, the handwritten notes were used.

After ensuring that the transcriptions were in appropriate condition for review (e.g., proper spelling of participant names, reconstruction of inaudible sections, correct formatting), they were e-mailed individually to the participants. The participants were notified in the e-mail that they were welcome to review the transcription to provide any additional comments or clarifications. They were given one week to review the transcription and it was noted that they were not obligated to provide any response to the researcher. It was also noted that the transcription was being provided to them individually and would not be shared with their manager, which was the case study sponsor. The e-mail further reminded the participants that every effort would be made to de-identify the information in the dissertation to protect their privacy. This meant that participants would not be identified by name in the dissertation but by randomized participant number and meant that comments from the participant interviews would not include information that would allow a participant to be easily identified. The return receipt feature was used to ensure that the e-mail had reached its intended recipient.

Of the 20 participants, 5 responded to the e-mail indicating that they had no further comments. One of the five was concerned that the responses provided were rambling and not succinct. This participant asked if the information would be provided in a summary format in the dissertation to which the provided answer was yes. No

participants asked that their statements be retracted although the researcher was prepared for this possibility based on the guidance provided by Janesick (2004). An example of a complete transcription is included in Appendix D. Information has been de-identified in the transcription to protect the privacy of the organization under study and the privacy of the participant.

Validity and reliability. Offering the participants the opportunity to review the transcripts was an important part of ensuring the validity of this study. Reliability was ensured through the use of the standard interview form (Appendix B), a standard onsite observation form (Appendix C), and a careful and detailed accounting of the data collection and analysis process, which serves to guide other researchers wishing to replicate this study.

When the transcriptions were reviewed for content, they were also hand coded by the researcher. As noted in chapter 3, the following primary categories were used to code information based on the purpose of the study, the research questions being asked, the interview questions, and the application of the mode of forgetting matrix as the conceptual framework: culture, knowledge, and performance. Within each primary category, there were subcategories. For culture, the subcategories included contact center environment, corporate customs, economic conditions, leadership support, and organizational change. For knowledge, the subcategories included avoiding bad habits, failure to capture, memory decay, training, transfer, and unlearning. For performance, subcategories included customer satisfaction, evaluation, standards, success, and technology.

Both the paper copies of the interview form, which reflect the hand coding and marginal notes, and the digital recordings will be securely kept by the researcher for a period of 5 years from the date this dissertation is completed. The observation forms will also be securely kept for the same amount of time.

Observation and Documentation Review

The researcher was able to sit with four agents and listen to phone calls, which resulted in 63 unique calls being heard. The contact center provided the researcher with a headset and she used the headset to link in to the agent's phone in order to hear the agent and the caller. Caller names were not recorded because they were not necessary for the purpose of this research. The rate of calls being answered when the observation was taking place differed depending on the time of day. Agents were busier during morning observations and had many back-to-back calls. Afternoons were less busy and the calls were spaced farther apart. When the agent was not on a call, the researcher took that opportunity to ask about training materials or look at e-mail communication to and from management and peers. She would also observe what other agents were doing. Because the actual contact center department was concentrated in one area of the building, it was easy to observe the day-to-day interactions of the team. The manager's office was immediately outside of the primary contact center area, which consisted of three small bays that each held four to five members of the team. Low walls between the bays fostered communication between the team and enabled the researcher to see and hear multiple interactions between team members. When the agents took their scheduled

break, the researcher often used this time to review the notes that were captured while listening to calls and to reflect on the activities around her.

After the first day of observation, it became apparent that observing in 2 to 3 hour increments was ideal. Although not verbalized, it was perceived that the agents were ready to return to their workday sans someone looking over their shoulder. Moreover, diligent observation is tiring and the researcher sensed that her focus diminished past the 3 or 4 hour mark; therefore, rather than doing two days of observation (8 hours each day), the observations were spread over 5 days to achieve the 16 hour duration. An example of a completed observation form is included in Appendix E.

During field research, the contact center was preparing for the introduction of a new support project. The agents were required to take online training sessions in preparation for the launch of this project and this enabled the researcher to review online documentation related to training. Reviewing documentation can better contextualize and deepen the research (Treleaven & Sykes, 2005). The researcher was also able to observe management communication documents through review of e-mail that participants shared during the time that they were being observed to better understand the communication styles and patterns that were used, which can be a reflection of the organizational culture.

Performance Metric Data

At the conclusion of the field research, 3 months of performance metric data were provided in Microsoft Excel format. There were no specific external criteria used in selecting the time period of the performance metric data. Because of the volume of performance metric data available, it was necessary to collect a manageable amount of

data for analysis; therefore, a 3 month time period was selected. The contact center manager chose to provide 3 months of data from the most recent spike or high volume period, which was March through May of 2008. The data are shown in Appendix F.

The organization was limited in the data that it could provide. Quality-based performance metrics, in particular, were largely not available as the contact center did not routinely track the quality performance (accuracy, adherence, customer satisfaction) of its agents. What was provided included one lone quality-based performance metric that was related to first call resolution, three productivity-based performance metrics that were related to average speed of answer, average handle time, and after call work, and data related to attrition and the top five call topics. The data that were provided, although scant on quality-based performance metrics, did permit a point of triangulation with the qualitative data.

Researcher as Instrument

In qualitative research, the researcher is the primary data collection instrument (Merriam, 1998). As such, there is not only a focus on gathering the data to be able to address the research questions, but also a focus on and an awareness of how one is being regarded and received during the field research because it takes place in such an intimate setting with face to face interactions and exchanges. From the outset, the case study sponsor was responsive and accommodating to the needs of the researcher and was patient with the elapsed time of the dissertation process from initial contact in late 2007 to welcoming the researcher onsite in early 2009 to conduct the study. The sponsor had alerted the team about the study and worked, despite her own busy schedule and

management responsibilities, to ensure that a sufficient number of participants were available to interview, that observations were scheduled, and that performance metric data were provided. She also made time to participate in the research by consenting to an interview.

This receptivity to the researcher was widespread, meaning that the participants seemed genuinely engaged in providing responses to the researcher. Many participants wished the researcher well at the conclusion of the interview and expressed interest in reviewing a final copy of the dissertation. Moreover, as the duration of the field study increased and the researcher was more frequently onsite, several participants shared unsolicited examples of documentation that they had discussed in the interview because they felt it important for the researcher to see. One participant recommended that the researcher speak to the individual primarily responsible for the selection and implementation of the Kaidara knowledge management system even though he was no longer a direct member of the team under study. This idea was fully supported by the case study sponsor and the researcher was able to understand the historical information about the system implementation as well as validate some of her early findings with that individual, who was a member of the organization's management team and a peer of the case study sponsor. This openness to engage fully in the research was also evidenced by the case study sponsor's decision to ensure that everyone in the field research location was able to participate in the interview process, including two remote employees, which enabled the sample size to increase from 16 to 20.

If there was any challenge caused by this openness, it was maintaining the formal relationship between researcher and participant. The culture of the contact center was one where people quickly felt like they were part of the team because of the easy rapport between staff and the general positivity toward the working environment. Moreover, there was a willingness to candidly share knowledge with the researcher that fostered a high comfort level and enabled the researcher/participant relationship to flourish in a short amount of time. Although invited to partake in several of the team's activities (a birthday celebration, a chili cook-off), the researcher declined to ensure that there was a clear line in the researcher/participant relationship. In addition, the researcher deflected personal questions that were asked of her during observations (in between phone calls) that were not related to the research to maintain the integrity of the relationship.

A final example of the team's receptivity to the researcher occurred during one of the observation sessions. The participant handled a phone call that was an excellent example of something that had been discussed during the interview. When the call was over, the participant turned and said, "Here's an example for you, Liz! This is a great example of us not being able to assist customers because the program team is unavailable" (January 23, 2009 observation). This enthusiasm spoke not only to the engagement of the participant in the research, but also to the culture of the team. That culture was generally positive given that the team had undergone reorganization and had acquired additional staff and projects to support through an acquisition a few months prior to the start of the field research. The results, which are discussed next, reflect those

changes and illustrate how culture intersects with knowledge loss, performance, leadership support, and organizational change.

Presentation of Results

The results presented in this section address the research questions and are discussed from the broad categories of culture, knowledge, and performance. Within each of these broad categories, the results are blended meaning that they are synthesized from all the artifacts of the case, the interviews, the observations, and the performance metric data to present a cohesive analysis. Answering the research questions using blended or merged data aligns with the mixed model methodology (Creswell & Plano Clark, 2007). When statements are taken directly from interviews, the citation indicates a participant number (e.g., P1, P2). The number of the participant has been randomized and does not reflect the order in which the interviews were conducted to protect the privacy of the participants. This is also why specific interview dates are omitted from the citation. For the observations, the date of the observation is provided for the citation (e.g., January 23, 2009 observation). Brackets are used to omit identifying information such as geographic locations or participant names or to clarify what the participant was saying and ellipses are used to edit proprietary information or nonessential information.

Culture

Culture is defined as "a set of attitudes, values, assumptions, and traditions that directly shape an environment" (*Merriam-Webster*, 2008). One of the primary assumptions of this study was that organizational knowledge is inherently bound to the organization's culture. Rowold et al. (2008) noted how culture plays a supporting role to

the learning organization. Therefore, to understand organizational knowledge, it was necessary to first understand the culture of the contact center under study.

During coding of qualitative data, which is summarized in Appendix G, 93 unique comments were coded under the primary category of culture. Within the primary category, those 93 comments were coded to a specific subcategory: contact center environment (29 comments), organizational change (20 comments), corporate customs (19 comments), leadership support (16 comments), and economic conditions (9 comments). After categorizing and subcategorizing, the comments were analyzed by audience. That is, the comments were reviewed to determine attribution to management (manager, supervisors, and team leads), to support staff (systems support technicians and knowledge team members), or to agents. Of the 93 comments made, 37% were made by support staff, 35% were made by agents, and 28% were made by management. Although it appears based on the percentages alone that support staff made a higher number of comments related to the category of culture, when compared against the number of participants in each category, the number of comments are in line with what would be expected across each participant category, which was validated via a chi-square goodness of fit analysis $x^2(2, N = 93) = 1.22, p = .54)$. This chi-square analysis prevents overemphasis on support staff responses versus the responses of management and agents. Table 6 provides a visual summary of the coded data for the category of culture.

Table 6
Summary of Coded Qualitative Data for Culture

Category	Total Comments
Culture	93
Contact center environment	29 (31%)
Organizational change	20 (22%)
Corporate customs	19 (20%)
Leadership support	16 (17%)
Economic conditions	9 (10%)

When compared to the researcher's own knowledge of contact center culture and when compared to the evidence provided in the literature about contact centers (Downing, 2004; Hillmer et al., 2004; Kinnie et al., 2000), two atypical cultural traits were immediately evident. Attrition was less than that experienced by other contact centers and the focus on performance was much less explicit than in other contact center environments.

Attrition and tenure. Unlike other contact centers that can have attrition percentages averaging 23% or higher (Customer Contact Council, 2007), the attrition for this contact center in 2008 was 6% based on the performance metrics provided. Per the case study sponsor, that attrition was because one employee left to pursue her master's degree and one employee left to work in another division of the organization. Attrition in 2007 was zero. The tenure of the agents as shown in Table 7, therefore, was longer than what one would typically expect in a contact center. This supported the scope of the study

and the desire to explore knowledge loss in employees with more continuous tenure (12 or more months) in the contact center environment.

Table 7
Tenure of Contact Center Agents

Length of Tenure in Contact Center	Number of Employees
1 year or less	4 (20%)
2 years	4 (20%)
3 years	5 (25%)
4 years	4 (20%)
5 years or more	3 (15%)

Although four employees had worked at the contact center for less than 12 months, those employees did not appear to be at risk of leaving. The length of tenure may be longer because of the leadership support that is provided. One participant said, "You know attrition is like none and that [says] a lot about the group and the way the group's managed" (P7). Additional responses included:

> I think it's the group. I think it's the people that are here. I think with [manager] and [supervisor] I think it's a very comfortable group to work with. They are very fair and we communicate and there's a feeling of being cared for or looked out after. The managers look out for the employees in the call center, which I think is strong. (P18)

> Most of these folks have been here since the beginning or since they were hired, which is anywhere from 2004 on up or 2003 I should say in some cases because they were with the original group. Tight knit group, highly interested in solving the customer's problem. (P19)

The length of tenure may also be longer because the environment of this contact center is atypical from the perspective of performance monitoring and the employees recognize this.

Focus on performance. The rapidity of the job, the required skill set, and the constant attention to performance makes contact center culture unique. Although organizations have worked to improve culture, there is still a high level of frustration with contact center work and with the culture, which has been discussed and debated in the literature (Callaghan & Thompson, 2002; Dawson, 2005; Downing, 2004; Heyes, 2002; Kinnie et al., 2000; Sturdy & Fleming, 2003; Thompson et al., 2001; van den Broek, 2004). This contact center is unique precisely because there is not constant attention to performance, which has created a more relaxed environment. The seven contact center environment questions asked of the participants during the interviews and the 29 unique comments collected highlight the difference in environment. Regarding attention to performance, one participant noted:

> It's a relaxed atmosphere compared to a lot of them, from what I understand, I haven't worked in other ones. But ours we try to make it relaxed, we try to make it kind of self-directing in that we're not really on top of them to say you are a minute late from your break for example or anything like that. We try to keep it relaxed. (P12)

Another participant said:

> From what I have heard from other call centers, it's our, our environment is not a typical call center environment. Meaning, I would say they are a little bit more laid back when it comes to you know being back from break, you know kind of a call monitoring and those sorts of things. (P1)

When the contact center was started, there was a decision made to structure it in a way that was atypical and different from other contact center environments.

> I thought you know I don't want the call center to be the call center that we typically think of as very strict, rigid, I'd really like to see them be self-directed in the sense that you know that they take ownership of their jobs and that it's not just about taking calls but it's about the bigger picture and [being] involved in other ways. (P19)

In addition to the more relaxed atmosphere found in this contact center and the recognition by participants that other contact centers are not like this, job security and the current economy were offered as additional reasons why participants continued to work in this contact center.

> I think people have gotten comfortable with their positions. And fit the mold here and I would have to think probably, well especially now [given the economy], people are glad they have a job but I think those are some ideas why there hasn't been a lot of turnover. (P17)

The economy. Although the questions prepared for the interviews did not include economic, financial, or budgetary inquiries, those topics appeared in participant interview responses nine times and showed that the current economic recession was on their minds as were changes being made by the parent organization to be more fiscally responsible and to have a better mechanism of charging and tracking costs. Several participants cited those topics as one of the top three challenges impacting their work environment.

> The third [challenge] I'd say recently it's been a challenge but it's actually been kind of interesting how we've been able to do work around it is the, I don't know what you want to call it, the recession or the cut backs that [organization] is doing, they've cut back the budget quite a bit so you know there's some things that we kind of have taken for granted in the past like travel and trainings and things like that, systems updates, tools that we use that we've kind of had to get creative about and it's kind of been interesting some of the solutions that we have found. (P2)

> Right now one of the big things is the financials because that's real big going into 2009. So you know we have to be real careful on how we are going to spend money this year. And it's really probably more so than it's ever been since I've

> been at [organization]. I know financials are always a concern but with the economy and everything going right now. (P7)
>
> But now this year is all new, we are charging back a cost per call to each program team based on the number of calls that we received. . .and then the unknown for the future is how will the economy impact the state budgets and what will that do to us. So again, we are all sitting wondering. And of course, the larger organization will be impacted by that as well if there are changes made so we just don't know. (P19)

There was concern about how state education budgets would be impacted by the economic recession as those budgets drive revenue for this contact center. Despite the concern about the unknown, the overall attitude of the contact center was upbeat and positive minus some frustrations with the reorganization that had occurred a few months prior to the start of this study.

A positive place to work. Leadership support, company benefits, friendly coworkers, and an overwhelming desire to serve the customer characterize this contact center from the perspective of the participants. Questions about leadership support during the interviews yielded 16 unique responses. Many of the participants praised the leadership direction provided by the contact center manager and noted that they got along well with her and that it was easy to talk with her. She was liked and respected by her team as evidenced in these responses:

> I think she has developed an open door policy you know just because she's a manager doesn't mean that she's deemed isolated from the rest of us. She's always willing to listen to ideas, suggestions, you know complaints. And as long as I have known her. . .nothing has changed, which is good. . .she's developed an atmosphere where people can express their feelings freely. (P17)
>
> A huge amount of support from. . .our manager. Basically, [she] is the type who does a lot. . .I cannot say enough about how great she is. She is a great person. But she also leads in a great way too. Gets things done and enables us to get our jobs done correctly. (P9)

During the observations, which are summarized in Appendix H, the researcher noticed the manager frequently interacting with the team to both obtain information and share information and to provide direction. It was evident that she was a hands-on manager. Moreover, when participants shared e-mails with the researcher that had been sent by management staff, the e-mails were positive in nature and were used to communicate updates to the team about the new project, provide reminders about corporate policies like timesheet entry, and to encourage participation in team events.

Participants commented on their appreciation for the organization in how it treated its employees particularly as it related to work life balance, in the general benefits it offered including tuition reimbursement, and in its fair wages. Participants also commented on the general camaraderie of the team, which the researcher witnessed during observations. Examples included team members assisting each other with customer issues and technical issues, sharing knowledge (which is further addressed later in this chapter), exchanging pleasantries about family activities, celebrating a coworker's birthday with cupcakes, ordering Girl Scout cookies to support a coworker's daughter, and, finally, their extension of that camaraderie to the researcher during her time with the team.

> A lot of cohesion here. Really, I've yet to see anyone who I really don't get along with at all. You know everyone gets along great with each other. Our group specifically is about 15 to 20 people and everyone seems to get along very well. . .I'm very happy working here. Or for that matter I think people generally, in general I think with our group everyone really tries their best to be here. We don't have any shirkers by any means. Everyone seems to really like coming to work and they do their job good and if they can be here at all they are usually here. (P9)

> I think we're a really good group. I mean I like the people that I work with and I'm comfortable asking for help when I need it. I think it's because it's such a small group that we are really connected and we know what's going on with each other and so that feeling of comfort is there. (P20)

> Ok I'd say that the, you know, the attitudes around our group for the most part that I can tell is positive. We have a, I think everybody has a high level, high value system from their background, wherever they came from so everybody wants to do the best job, everybody wants to do the best job that they can for our group and for [manager]. (P17)

In addition to the high value systems noted by the participant above, the majority of participants had direct experience in customer service before joining the contact center team and this focus on service was evident from their responses. "I would say. . .helping the customer the best I can and feeling that I am doing you know everything I can to make sure the customer is satisfied" (P18).

> I think success is being able to answer a call, complete the call, and answer it in a quick manner and to make sure that when they get off the phone they know the customer was happy and was satisfied that they knew what they were talking about and they were able to assist. (P14)

> Ok well something that I have definitely set as a foundation for this department is number one first and foremost is servicing our customer and really being able to take care of them and their needs but in order to do that we have to create an environment where our team members or our agents are happy. So really providing an atmosphere where they feel comfortable so that their attitude can really be a good one within the team, with their team members, with their coworkers, the environment that they work in and then that will ultimately reflect on our customers. (P6)

> They [senior employees] had a way when things were looking discouraged they would say things like it's for the children. So no matter what anybody else was doing to make you mad, you understood that it was for the children, it's for the better good of your ultimate customer as a service to the children, the schools, the state department, and everything else but ultimately it's for the children. (P4)

> I would define success [as] being able to make a positive impact on either internal or external customers. . .if you are able to look at yourself and say that you were able to provide the best information to them. . .you know you are trying to do the

> best for the customer and you are showing over the phone that you are caring about their issue and they are just not another number and the idea of making positive impact on someone. (P17)

Organizational change ramifications. Although the participants indicated that the environment was fun and friendly and there was a desire to help each other as internal customers, some participants were frustrated with leadership support and staffing decisions that were related to the reorganization of the center. The topic of reorganization was discussed in 20 unique comments from the participant interviews, which was the second highest topic discussed within the category of culture thus emphasizing that it was very much on the minds of the participants. Supervisor and team lead positions were created and subteams were formed and some participants no longer continued to report directly to the manager. This reporting change continued to cause confusion with the staff. When asked to whom they reported, several participants noted that they were unsure or questioned why they reported to a specific supervisor when it did not appear that the supervisor understood the job duties of the particular participant.

> I kind of feel like my managers don't really know, they're not as technical as I am and they don't know the processes as well as I do so they like to get in the middle of things kind of and it seems like they ask more questions and impede our progress more than anything so that's one issue. (P2)

It was evident that resistance to the organizational change brought on by the reorganization was still an issue and one that impacted the culture. As noted earlier in the dissertation, when routines, beliefs, values, and assumptions are undergoing change, it is an organization's culture that is undergoing change as well. It seemed as if the reorganization had pushed the team into the first step of change, unfreezing, as identified by Lewin (1951/1997). It is during the first step, unfreezing, where the concept of

breaking away is applicable. This step sometimes requires deliberate action to shake the group from its complacency or inertia. An event must happen, like this reorganization, for the group to be motivated to change. The purpose of the reorganization, according to management, was to more appropriately align roles and responsibilities and ensure that dedicated staff were supporting key areas like knowledge management, systems support, and metrics and reporting. At the time of the study, it appeared that the team was still in Lewin's second step of change, that of moving or still being in a transitory period, and there was lingering bitterness about the hiring decisions.

> I don't really like to call it a transition period but I think we are having a longer transition period than I thought we would. . .just because so many people, you know we were just, we were all support specialists and now branching out and having all these new positions it has kind of been like a learning experience for what everyone's job is and it's kind of been hard too because it's been kind of hard to keep everyone on the same page. But I think it's still, just still a transition of getting used to certain people in the positions. (P14)

> I don't know exactly know how much detail you want but the fact that the organizational changes [happened], there was a very distinct preference towards people who have been here longer, people who are closer to other people, not experience. (P13)

> You know and so there was a lot of problems and then when they had the interview process because before they just appointed people and they didn't really tell people. But it was very difficult and now it's even more difficult because now I'm actually one of those people so. . .I feel like I'm being viewed that same way that other people viewed people even though I applied. (P15)

This dissent is not uncommon in periods of organizational change. "The implementation process is messy. Things don't proceed exactly as planned; people do things their own way, not always according to the plan; some people resist or even sabotage the process" (Burke, 2002, p. 2).

Compounding the issue of reorganization was that the contact center had undergone a seismic year of change in 2008 with the acquisition of another company and the onboarding of a new national project. The response to these changes may have necessitated the reorganization. At a minimum, the management team believed it was needed and ultimately were aware that a period of adjustment would ensue.

> Yeah we've had some changes to that in the last six months but I don't think that's, you know in some cases we have had some situations were maybe we are dealing with that change right now with individuals that may not have adjusted as well, but overall I think it's been a very positive change but it has not diminished the culture that we have of being close knit and helpful to one another. (P19)

This awareness aligns with leadership's responsibility to sustain culture, to sense a culture in trouble, and to subsequently regenerate the culture (Herman, 2007).

> But if elements of a culture become dysfunctional, it is the unique function of leadership to be able to perceive the functional and dysfunctional elements of the existing culture and to manage cultural evolution and change in such a way that the group can survive in a changing environment. (Schein, 2004, p. 23)

With the reorganization, the acquisition of another company, and the implementation of a new project, knowledge loss issues were exposed at the parent level of the organization, at the contact center team level, and at the individual participant level.

Cultural contributions to knowledge loss. As noted earlier in the definition of culture, traditions shape an environment and participants commented 19 times on the ways that corporate customs impacted their department. The parent organization has a custom of failing to capture standard operating procedures that can prevent accidental knowledge loss, particularly when it comes to outlining in contractual documents the very support that its contact center provides.

> Sometimes you get program teams that write contracts and they. . .did not consult with the customer service teams. I mean it can be anything, their hours of operation, that's been messed up before where we had extra support in places where it wasn't even needed [but] because the contract said we would be there, we were there. (P4)

> So it seems like the culture is do whatever it takes to get that particular contract, fulfill it, and move on. And it seems like we do a lot of the same things over and over and over again but we don't say we do the contract this way and do it. Group B is going to reinvent everything instead of taking what group A [did] and following it and so on and so forth for all the groups and all the contracts. So it seems like we are lots of busy little cells all doing the same thing but not coordinating. (P5)

> It's just disjointed around here. . .but it can be a little chaotic and there's so many parts of the organization that are doing their own thing and standards don't, standards are an issue around here as far as they don't really exist. . .no standard way to really role out a new product and the communication behind that. Sometimes it will just appear. Or here's another one, we win a new program and I don't know how we find out. The only way I know how to find out and that's hopefully a manager will come to us and say hey we need to use you as a call center. You hope they understand there is a set up process. But there is no good succinct way to communicate that out to everyone, it's different every time. So it's a larger organization issue that impacts [us]. (P19)

In addition to the lack of standards at the organizational level, at the team and individual level knowledge loss manifested itself through the reorganization as employees were moved into different positions. There was at once both a reliance on tacit knowledge to fill gaps in documentation or processes (failure to capture) and a resistance to tacit knowledge because it straightjacketed the team from shedding the old knowledge (i.e., the way it was done before) and embracing the new ideas and the new knowledge being created by the employees applying themselves to their new roles (unlearning).

> So like to me that just kind of took us back a couple steps because we had people who were knowledgeable and then now they're not. But I just see that as a big loss, like a loss for our team because now we don't have the, like the strength of someone who knows the ins and outs of knowledge and has done it for 2 years

> and we are going to bring in new people of which I have confidence in those new people but it's just going to take them a while to get up to that level. (P14)

Even though this participant viewed the reorganization as causing a loss of tacit knowledge, there was still a note of positivity that showcases the overall attitude of the team that was evident not only in the interviews but in the observations as well.

Culture summary. The organizational culture at the time of the study was in upheaval due to reorganization, acquisition, and implementation of a new project, although the environment was characterized as fun and it was noted that there was a high level of camaraderie among the team along with a high level of respect for the manager. Direct observation confirmed the findings from the interviews and 93 unique comments were coded from the qualitative data. The environment was atypical of the average contact center because attrition was low and tenure was longer. In 2008, attrition in this contact center was 6% while the average attrition noted by the Customer Contact Council (2007) was 23%. The average tenure of agents in this contact center was 2.2 years compared to 1.5 years for other contact centers (Customer Contact Council, 2006). Moreover, the atmosphere was relaxed due to a less explicit focus on performance. Participants were concerned about the economic recession and sensitive to the reorganization. Knowledge loss occurred at the organizational level because standard operating procedures related to contracts were not traditionally captured. It occurred at the team and individual level because of attitudinal resistance to change. Knowledge loss was both accidental and purposeful and the source of knowledge was both old and new. The culture of the contact center and the organization contributed to dimensions of knowledge loss, which are described more in detail in the next section.

Knowledge

One of the primary assumptions of this study was that knowledge loss occurs at the both the individual level and the organizational level. Therefore, it was necessary to probe participants about their own individual knowledge roles as well as the overall organization's knowledge role. During coding of qualitative data, 102 unique comments were coded under the primary category of knowledge, which included themes of acquisition, use, transfer, and loss. Within the primary category, those 102 comments were coded to a specific subcategory: memory decay (37 comments), training (27 comments), transfer (14 comments), failure to capture (11 comments), unlearning (9 comments), and avoiding bad habits (4 comments). After categorizing and subcategorizing, the comments were analyzed by audience. That is, the comments were reviewed to determine attribution to management (manager, supervisors, and team leads), to support staff (systems support technicians and knowledge team members), or to agents. Of the 102 comments made, 41% were made by agents, 30% were made by support staff, and 29% were made by management. Although it appears based on the percentages alone that agents made a higher number of comments related to the category of knowledge, when compared against the number of participants in each category, the number of comments are in line with what would be expected across each participant category, which was validated via a chi-square goodness of fit analysis $x^2(2, N = 102) = 2.88, p = .23)$. This chi-square analysis prevents overemphasis on agent responses versus the responses of management and support staff. Table 8 provides a visual summary of the coded data for the category of knowledge.

Table 8
Summary of Coded Qualitative Data for Knowledge

Category	Total Comments
Knowledge	102
Memory decay	37 (36%)
Training	27 (26%)
Transfer	14 (14%)
Failure to capture	11 (11%)
Unlearning	9 (9%)
Avoiding bad habits	4 (4%)

Tools and training. The agents in this inbound contact center answer customer questions using the Kaidara knowledge management system populated with knowledge base articles about state assessments, a central website populated with program summary information for each state assessment that is supported (e.g., test start and end dates, order dates for test materials, reporting information, and escalation paths for agents who need to reach other members of the organization supporting assessments), and user guides provided either by the state departments of education or by the part of the organization that provides assessment services to the state. Kaidara is linked to the contact center's electronic tracking system so that agents can use Kaidara directly from the tool in which they record caller information, detail the topic of the call, and if necessary, escalate the call.

New agents initially receive 1-week of training that is a combination of online and instructor led training followed by 1-week of nesting where a senior member of the team

is with them as they take calls. Agents are trained on paper assessments or online assessments depending on business need. In the past, the contact center would train new agents on both types of assessments, but it found that it was not the best way to train.

> We just threw everything at them all at once. And that took more than a week that would probably take two weeks to do that plus then a week of actually sitting down with them and watching them as they actually take the calls. We found out that it was kind of an information overload for them. And so what we've done is we backed that off and trained them in the areas that we need the help the most when they are hired. (P17)

Refresher training or follow-up training appeared to be limited and some participants requested more training when asked what would make their job easier. Unique comments about training from the participants totaled 27, which ranked second highest among the knowledge subcategories.

> Like making sure that each agent is proficient on each program or product that they are supporting and then so like if I'm not proficient, am I ok to go to my supervisor and say I need refresher training on this or you know I feel like I'm lacking skills to support this. What are you going to do to make sure that my skills are proficient or I feel comfortable supporting this? (P1)

> After training there wasn't a whole lot. I mean there's little ongoing trainings but typically, they tend to do them a little too far in advance to be effective. Ok. By the time we start getting the calls you've kind of forgotten it. A month has passed. I understand the point but just disagree with the implementation. (P3)

During observations, the researcher had the opportunity to review some online training documentation. An agent being observed was taking training on a new project in between phone calls. The portion of the training that was observed was focused on showing new users of the project website where to find specific information like reports and other user information. It was not easy for the agent to focus on the training for more than just a few minutes because the call volume was steady that morning. That coupled

with the fact that the actual project implementation was still weeks away may have made retention of the training materials difficult. Observation of the way in which the training was occurring and seeing the actual training materials validated the comments of the participants that the training program could benefit from additional attention.

Typical callers and call topics. Typical callers include district test coordinators, superintendents, principals, teachers, and other administrative personnel from the school districts. Caller questions vary but some examples include questions about administration dates, material order and return dates, password resets for organization-supported assessment websites, and technical support for online testing or audio testing. Table 9 provides categorization of the call topics captured during the 63 observed calls.

Table 9
Frequency of Call Topics for Observed Calls

Call Topic	Example	Frequency
Administrative	Caller unsure of how to upload student data file; caller needed password reset	30 (48%)
Materials	Caller questioning how to order a Braille assessment	16 (25%)
Technical Support	Caller requesting assistance because media player was not working for an audio test	8 (13%)
Training	Caller noting that school district offering training session, but session was full and needed additional information	7 (11%)
Misdirected	Caller looking for other individuals in organization	2 (3%)

The top five call topics as categorized by the contact center and provided in the performance data metrics are shown in Table 10. The reported data were for a 1-year period.

Table 10
Frequency of Call Topics From Performance Metric Data

Call Topic	Example	Frequency
Security	Caller wanting to validate that organization had received all materials and state requirements were met	25330 (53%)
Ordering materials	Caller questioning how to order a Braille assessment	7777 (16%)
Returning materials	Caller asking about how to package return materials	6416 (14%)
Lost password	Caller requesting password	4171 (9%)
Reset password	Caller requesting password to be reset	4059 (8%)

A comparison between Table 9 and Table 10 shows some similarity in frequency. Calls about materials are about 25 to 30% of call volume while administrative issues like password resets, security verification, and file uploads are about 70 to 75% of the call volume. Segmenting the call topics in a more granular manner would provide the contact center with additional insight on specific topic frequency. For example, the call topic category of security constitutes 53% of the call volume in Table 10 yet is an extremely broad category by definition.

The participants spoke of how widely the caller questions varied and that from a knowledge perspective, it was difficult to be fully prepared for all calls because of said variety. One participant stated, “I think the biggest challenge is knowing what I need to know tomorrow today. Yeah, preemptive knowledge would be very nice” (P10). Another noted:

> But a lot of times it's a challenge when people ask, you know, I don't want to say out of the box questions, but sometimes we get questions that are just you know, 'Why are you asking that kind of thing?' We get a lot more than I'd like to say. And that's kind of a challenge because you know the customer they want an answer like right now and you, there's no way you can do it because it's nothing you have ever heard before. (P9)

As an example of a question that was out of the box, a teacher asked an agent during one of the observed calls if a parent could register for the teacher training. The agent indicated that the question was unusual and unexpected and that the answer to the question was not in Kaidara (January 22, 2009 observation). The call was escalated to another employee within the organization for resolution.

In addition to the variety of questions that are asked, the contact center team supports a large number of individual projects. The number provided at the time of the study was that the team supported 120 different projects. When asked about the top three challenges impacting their work environment, this was one of the challenges brought up by the participants. Given the number of projects, it is understandable that discussion pertaining to memory decay was the top knowledge subcategory with 37 unique comments.

> I think the biggest challenge is the breadth of what we cover. We have 120 different projects that we service. I don't know, I should probably count them again but in that, you know there's probably like 30 different programs with so many people involved. (P19)

> I think one [challenge] is just because there is so many products, programs that we are asked to support is being able to stay frontline with knowledge. You know like the only way we are able to give support is if the other groups within [organization] feed what we need to support them. (P1)

This feeding or transferring of knowledge is a critical part of how the contact center services its customers and participants provided 14 unique comments on transfer.

Knowledge transfer. The subject matter expertise resides with various functional teams that are within the same organization, but under different management. These teams are called program teams and they provide knowledge to the contact center so that the agents can serve as front line contacts for customers who have questions or are experiencing technical issues. The contact center, therefore, relies on knowledge provided by various program teams. The program teams do have subject matter expertise, but they must also rely on knowledge provided by the state departments of education. The knowledge transfer process between the program teams and the departments of education was outside the scope of this study. Within the scope of this study was the knowledge transfer process between the program teams and the contact center, and it became clear early in the study based on the participant interviews that a key contributing factor to knowledge loss in this organization was due to the program teams' failure to transfer knowledge to the contact center that was linked to a cultural resistance to unlearning, which is described more in detail later in this chapter, and linked to contract standardization, which was discussed in the previous section on culture, that permeated the program teams and the organization at large. The situation, although not ideal, seemed to be generally accepted as the way things were and embedded into the culture. Contact center management talked of changing the situation, but the difficulty of doing this was evident.

> You know we're working on it, but I think the number one thing that would make my job easier and would make everybody else's job easier is if the program teams were really highly dedicated to making sure we had the knowledge we needed and that they were also available when we need them during peak spring to help out on calls. (P19)

> I would say the communication with those groups is sometimes is a bit lacking. I wouldn't say it's lacking but sometimes it's slow to come I guess I would say. We seem to find out a lot of things after the fact. (P18)

Although there were known issues with the program teams providing knowledge to the agents that directly and negatively impacted them because they were unable to service their customers, many participants were also quick to defend the program teams. While being candid in their responses about the lack of support and sharing that some specific program teams were known for being nonresponsive, the participants recognized that the teams were busy and had multiple obligations that they believed prevented them from being proactive providers of knowledge.

> It is not utmost and foremost on their mind. They have so many things going on that we find that, and I will admit that it has gotten better but, you know it's not their focus. [They are] not out there getting their knowledge and then when they need to, particularly in spring when those are the busiest days. So there's that gap of us not able to create that knowledge and needing and requiring those of what we call technical experts available to us to create that technical knowledge. (P19)

> Really the coordination of all that effort is the biggest challenge because you know you get the program team busy doing something or they are out of town or you know whatever activities they are doing if they don't have time to put the answers in for those questions then we're not going to be able to fulfill that smallest requirement. (P5)

The current culture seemed to support program teams' nonresponsiveness and reactive approach to providing knowledge. At the time of the study, improving the relationship between the contact center and the program teams was important to the contact center.

> I think you know being able to, whether virtually or over the phone with some of the program team members, to establish a better relationship would be the most useful tool to me. Well, I would like for you know myself and the program team to be able to almost work in tandem so that when they get information it automatically is forwarded to the. . .team. (P16)

To effect cultural change, it may be necessary to show executive management how this impacts the center's performance, which is discussed more in detail later in this chapter. Moreover, gaining awareness of how knowledge loss occurs, why it occurs, and pinpointing specific areas of attention related to knowledge loss, like failure to capture, unlearning, memory decay, and avoiding bad habits can help the organization focus its knowledge management efforts.

Knowledge loss: failure to capture. When applying Martin de Holan et al.'s (2004) mode of forgetting matrix to the results, failure to capture knowledge was a contributing factor to knowledge loss and was evidenced in 11 unique comments made by participants. According to Martin de Holan et al., failure to capture knowledge is classified as accidental knowledge loss as opposed to intentional knowledge loss, which is linked to unlearning. In the contact center, there was more intentional knowledge loss occurring than accidental knowledge loss because of resistance to unlearning, but accidental loss due to failure to capture was present. According to Martin de Holan et al., failure to capture is often related to new knowledge or tacit knowledge that has not been made explicit and institutionalized within the organization. When asked about knowledge loss and forgetting, participants indicated that they often relied on the experience and tacit knowledge of others when they were not sure how to complete a task, which is similar to the findings of Kuhn and Jackson (2008). "But sometimes they'll come to me with that because I've been here for quite a while and so a lot of people will just ask me" (P5).

> So he actually was with this group before [manager] took it over and he's great. I mean he knows the ins and outs, the everything that goes on behind the scenes. He's very technical because of how he came along with this group. . .you know when you know all those behind the scenes things because you came from the bottom up. So he's very good. (P7)

This reliance on tacit knowledge generally works because attrition is low in the contact center and the tenure of the agents is long, but if experienced agents leave the group, knowledge loss could be amplified by the departure of this tacit knowledge, which is what happened when one team member left for another position within the organization:

> Well when I took over this position the knowledge that I had was basically in somebody else's head for the most part. But in quite a few tasks that we had so, that was a struggle. You know I got as much information as I could from him when [he] left but his movement to the other department was pretty quick so he really didn't have a whole lot of time to take me through things and train me. So what I've had to do is get knowledge piecemeal. (P2)

The organization may need to consider how to make more of the tacit knowledge explicit to prevent knowledge loss. In addition, it seemed that the attrition on the program teams may have been higher than that experienced in the contact center so attrition at the subject matter level was also impacting the knowledge capture process.

> New program team employee turnover. Like if you get a new, if you have a replacement on the program all of the sudden you are not getting updates in knowledge. I think a big part of it is our internal customers knowing what we need and when we need it and how important it is to us. And it's not really, well it might be looked at as forgetting knowledge but its knowledge that was never provided to us for some reason. (P4)

The lack of cultural reinforcement to provide knowledge and the lack of standardization prevents knowledge from being institutionalized in the organization. It was noted earlier in this chapter that participants felt as if the organization was reinventing the wheel with each project. The example below provided by one of the

participants shows how this lack of standardization to onboard a project can cause problems and how it can put a significant level of stress on the team.

> Last week well we learned [that the] group needed to support a weekend project, which is not typical for us. The program team was not ready; they did not have their knowledge in Kaidara yet. So we had to struggle with them being on the phone quite a bit getting somebody to help them get their knowledge in. And then we ended up, we finally ended up saying hey you put the question and answer in and we'll worry about flagging it and categorizing it for you. And then the other piece they were missing was they didn't make sure the phone system was going to be available and open for them. For that day. . .that's probably the most frustrating part when it's not all falling together. There are several of us that kind of go nuts. (P12)

Accidentally forgetting to ensure telephony systems were available for a weekend project illustrates the failure to capture mode of forgetting from Martin de Holan et al.'s (2004) matrix. This participant hoped that this lack of preparation would lead to lessons learned that would prevent the situation from happening again. There were examples, however, that the organization failed to capture knowledge gained from these lessons learned.

One prevalent example brought up by several participants was related to online training provided by the program teams to teachers, district coordinators, and other administrative personnel. Trainees would receive an e-mail that would contain a hyperlink to the online training. This link was often incorrect and as the time of the training drew closer, calls to the contact center would increase because trainees would be experiencing difficulties accessing the training because of the incorrect hyperlink. This was not a one-time occurrence. This was a systemic issue that was occurring with the e-mailed hyperlinks. It appeared to be a problem with the third-party vendor that the organization used to deliver its online training; however, it did not appear that steps were being taken to resolve the issue to prevent it from happening again.

> Well typically, when they send out webinars for the various trainings and they usually have the wrong link in the e-mails. That seems to be an ongoing issue. . .well everybody who's attempting to log into the training can't because they click on the link and it's not a URL that they can just type in and it's just this click here, literally. So they have to call us. So we get a little busy around then. It usually starts because at least one person will click on it an hour early so we get plenty of notice before it is really critical. But you just think somebody somewhere would check the link prior to the day of training. I think it's been going on for about a year now. . .but I would think since it seems to be an ongoing issue somebody can check it and then know it's wrong and then just send out another e-mail. Saying hey, the first link is broke and here is the correct one. Personal opinion, I don't know maybe it's not that simple. (P3)

During call observations on January 22, 2009, this situation occurred. A caller indicated that her user identification and password were not working for the online training session. Another agent overhead the observed agent talking to the caller and told that agent that the initial hyperlink was incorrect and that he should send the caller the new hyperlink. The agent communicating this information noted that the hyperlink had been corrected in Kaidara and that the agent could find the correct link there. While Kaidara had been updated with that particular knowledge, agents expressed frustration with the lack of routine knowledge available, which seemed to indicate the lessons learned from previous administrations were not being captured and institutionalized.

> I know in the past there's been times when even like the simplest solutions are not in there. Like when they know and their moment is coming up the solution should already be in there like what do I do when I missed enrollment, what do I do when I missed the pick up date. Those are just general knowledge that for every cycle of testing they should already be there. (P20)

While accidentally forgetting to capture lessons learned illustrates the failure to capture mode of forgetting, intentionally deciding not to share knowledge illustrates the unlearning mode of forgetting with knowledge that is explicit and that type of loss was also present in the contact center under study.

Knowledge loss: unlearning. Organizational employees may not consciously be aware of unlearning or resistance to learning, but evidence of it was found in nine unique comments made by participants. Organizations cannot just will unlearning onto its employees. "Creating and sharing knowledge are intangible activities that can neither be supervised nor forced out of people. Thus, it is necessary for organizations to provide a learning culture, infrastructure, and appropriate incentives to generating and disseminating knowledge" (Hsu & Shen, 2005, p. 354). One of the reasons why the program teams may be resistant to sharing knowledge is because there are no incentives for disseminating knowledge, which is an issue that is shaped by the organizational culture. During a discussion with a member of management, the manager commented that the program team members responsible for knowledge sharing are the program coordinators. The program coordinators are "at the bottom rung of the totem pole so to speak so them helping the customer is something they want to do because it may be the only positive feedback they receive on the job" (E. Herman, personal communication, January 30, 2009). This meant that sometimes the program coordinators purposefully held onto knowledge so that they could help the customers and receive that recognition for helping solve the customers' problems. They wanted the contact center to have to escalate the calls rather than providing knowledge through Kaidara.

> People like to hold on to knowledge. They don't like to share it sometimes. It's just like it's their way of futilely holding on to power. That was a huge problem with the program team was there would be stuff they knew about that they wouldn't tell us about. It's just yeah, it's like we're trying to standardize everything but every program, every person kind of feels that the loopholes. . .are their fiefdoms and I don't have to do this or I shouldn't have to do this. (P15)

Many of the participants were conscientious about answering customer questions correctly and adamant that they would not provide an answer that was incorrect or at which they had guessed.

> For not being able to answer a call like our policy is if you don't have the answer and you weren't able to find knowledge we don't, we don't answer it because we don't ever want to give a wrong answer, we don't ever want to imply that we knew when we didn't. (P14)

> I always call them to confirm like if I think I know the answer I'm not going to tell them and then have it come back on me that I gave them the wrong answer. So I always call them to just double check. (P20)

This process was evident during observations as the program teams were involved in 32 out of the 63 calls observed, whether it was a direct escalation to a program team or whether it was the agent verifying an answer with a program team member before providing that answer to the customer. The agents were careful to document who from the program team provided the answer: "I would put per the program team this is the answer" (P14).

Even when knowledge was found in Kaidara, there seemed to be limited accountability on behalf of the contact center team to ensure that the knowledge was current. When asked how the team ensures that the knowledge is current, many participants responded that they do not ensure the knowledge is current because it is not their responsibility. The burden of responsibility was on the program teams. While this response is understandable given that the program teams are the subject matter experts, it does not foster a group solution, or an organization-wide solution, to the knowledge loss problem. There was definitely a sense of self-preservation on behalf of the agent. "It's not

up to us to you know, it's not up to the agents to review that knowledge it's up to the programs and if they put the wrong information there it's not our fault" (P16).

> So it kind of falls back on them [the program team], if we are providing information that is out of Kaidara and that information is not updated then the responsibility falls back on the program team and not on us. (P6)

> Because the program teams are responsible for making sure that the knowledge is up to date and if one of my agents gives somebody an answer with the knowledge base article that is correct and it's the wrong answer that is not that agent's fault. They're doing what they were trained to do. (P18)

> We [cannot] ensure knowledge is current because there really is no mechanism. We can send e-mails to program teams going hey can you please verify that this is current. They might look at it. There's no way of ensuring that they will do it. That's essentially the gist of it. . .but I've always thought knowledge in the articles as being a cover your ass. I did what was on there. I did the information as a great little cover your ass kind of thing. (P15)

When contact center management was asked how the team ensures the knowledge is current, it was noted that it was the responsibility of the knowledge team. But when the same question was asked of the knowledge team, it was noted that it was the responsibility of the program team. Culturally, to minimize knowledge loss in the contact center, there needs to be mutual accountability among the contact center team and the program teams.

One way to promote accountability among the contact center agents is to ensure that they are using the processes that have been established for them to provide Kaidara knowledge articles and possibly establish some performance goals around submission. Although several participants talked about the availability of this process, it did not appear to be a widely adopted process.

> In the last. . .oh I don't know month and a half, two months there's not been one single article put in the review queue. Now people mention stuff and send us

> feedback for that and then we kind of push back on them and say ok well go ahead and write an article. They don't do it. They could take time if they wanted to and there is a methodology, which they can, we call aux time. And then there is a form that they fill out and just like say their name, how much time they spent, and what they did essentially. They don't do it. (P15)

During observations, when it appeared that an agent could have taken the initiative to submit an article, the agent assumed that someone else on the team had already done so. It did not appear that this assumption was validated by the agent so it was unknown if any of the other agents had actually taken the initiative to submit the article. Therefore, although the program teams may seem like they are the primary contributors to knowledge loss in the contact center, there is an aspect of loss that resides at the agent level as well that is perpetuated by bad habits. Although only four unique comments are attributed to avoiding bad habits from the qualitative coding, the actions seen during observation validated that bad habits were problematic in the contact center.

Knowledge loss: avoiding bad habits. In Martin de Holan et al.'s (2004) mode of forgetting matrix, bad habits are linked to intentional knowledge loss. The bad habits observed at the contact center or gleaned from the interviews included not submitting knowledge articles, outdated knowledge in Kaidara, and although rare, providing answers to customer questions before validating the answer in Kaidara. Per Martin de Holan et al., "organizations, like people can learn bad habits—routines, practices, ideas and values that are counterproductive" (p. 50).

One of the counterproductive practices was the inclusion of outdated knowledge in Kaidara. During the observations, it was noted on several calls that when the agent searched for information in Kaidara, information for 2007 or 2008 administrations would

appear and the knowledge contained within would not be applicable to the 2009 administration. That is not to say that all knowledge in previous administrations was outdated. When asked if some of the knowledge was still applicable, one participant responded:

> Not very often but sometimes that is. . .like maybe the process for doing something like with [state] and how they log in. It's the same way they log in for the last 3 or 4 years. So the article is a little old but. Even still sometimes they will update them anyway but I have seen articles out there that are still valid articles but they are from 07. (P13)

Removing outdated articles was supported by participants:

> So. . .this would help when we do a search for a certain topic then we are, our search results will come up with current articles rather than being clouded you might say with a mix of old and irrelevant articles that may be for a year or 2 past test administration even though it's from [state] you know and then it slows down my scanning of the articles to see which one would most fit the customer's question. (P17)

> It drives me crazy that there are the old ones [articles] in there. I think they need to be expired because the information may still be there and they always make a great template for the new information but you don't want to give someone information from 2006 because Tuesday, January 13th might actually be Thursday, January 13th then. (P16)

To ensure that the information that they are providing is current, most agents rely on the article's date stamp. The agents learn early in training to check the date stamp and, more importantly, to check Kaidara and validate the information before providing it to a customer. There were a few occurrences, however, when agents admitted to the bad habit of giving the answer before checking Kaidara. In those situations, when the agent discovered that erroneous information had been provided, the mistake was corrected by calling the customer back and providing the correct information.

> Even though I gave that [administration] date out and had it in my head you had to go to the actual article and click on it because that's what populates the ticket. Well toward the end of the week I had actually been giving that date, I actually went ahead and gave that date out before I read it because it had been ingrained in my head. . .then when I went to find the article. . .I was like oh my gosh the date had been extended. . .I actually then called this customer back immediately. I said I'm so sorry I didn't realize that there was an extension and you now have until so and so. (P7)

Sometimes the process of contacting the program teams to validate information does not work. During the second day of conducting interviews at the contact center, one of the participants, when asked to discuss the top three challenges impacting the work environment, noted that there was a challenge that morning with incorrect knowledge that had been provided to customers the day before. The answer in Kaidara was correct, but an agent had received verbal information from a program team and used that information over the documented answer. When it was discovered that the verbal answer was only partially correct and that the full documented answer in Kaidara was correct, all of the tickets had to be searched and those customers had to be contacted to correct the knowledge that was provided the previous day.

> The answers that went out yesterday were both verbal ones from one person to another. . .then that got passed on from that agent to another. . .and then when they found that the database carried the correct information it was then brought to me to go ok do we call everyone, what do we do. We've already decided what to do. I've contacted the program team to find out specifically what was the right information and then I went through and we found all the tickets and split the list in half and I called half and [another agent] called half. (P16)

Overall, knowledge loss caused by bad habits was minimal and less pervasive than the knowledge loss caused by failure to capture and unlearning. However, the responses provided by the participants can provide the organization with some areas on

which to focus to ensure that knowledge loss through this mode is minimized and that intentional bad habits are avoided.

Knowledge loss: memory decay. When it comes to knowledge loss caused by accidental memory decay, remembering passwords was the most cited example by participants and a frequent call topic during observations as noted previously in Tables 9 and 10. "Forgot how to do something? Gosh. Like forget a password? When I came back from vacation, I forgot half my passwords. In that situation. . .I had to go to the administrator and have him reset the password" (P18). "I forgot my login because I haven't been in [software]. I couldn't remember the password and user ID so we can actually open a support request and they'll reset your password" (P7). In other examples of memory decay, participants noted that they either suddenly remembered what they had forgotten or turned to a peer for assistance.

> I put in a request for adding new employees on the. . .directory and I forgot to add the extension numbers. . .I also found out that not all of the new employees that we [hired] in December were added to the directory so I included that information as well. (P11)

> So I asked my co-worker that sits next to me because he's actually going to be a lead and he knows specifically what's going on with the whole [state] program. So he kind of helped me out with that and I was able to help out the customer. (P20)

The reliance on peers, which was also present during the call observations, was consistent with other research as noted by Downing (2004). "It is usually easier for workers to ask someone they know and trust a question rather than relying on printed manuals or calling someone outside their communication network" (Holman, Epitropaki, & Fernie, 2001, as cited in Downing, p. 174).

Knowledge summary. Similar to knowledge loss caused by bad habits, knowledge loss caused by memory decay had less of an impact on the contact center's ability to serve its customers than the knowledge loss caused by failure to capture and unlearning. It appeared, however, that it was easier for participants to provide examples of memory decay or forgetting than it was for participants to provide examples of unlearning as categorization of the interview data revealed 37 unique comments about memory decay versus 9 comments about unlearning. This may be attributable to participants' inability to recognize in themselves a resistance to new knowledge or a resistance to additional learning. Participants did recognize the impact from failing to capture current knowledge but did not take action to capture knowledge as witnessed during observation.

Avoiding bad habits and recovering from temporary memory decay are knowledge loss areas that can reinforced at the team and individual level. It is the knowledge loss areas of failure to capture and unlearning that must be supported at the organizational level with appropriate leadership backing to effect cultural change. Because the loss experienced at this contact center regarding failure to capture and unlearning had a direct impact on the organization's performance, showing upper level management the impact to performance can foster more widespread leadership support.

Performance

Several qualitative interview questions probed how job performance was measured for participants and quantitative data were available from the three months worth of metric data that were provided. During coding of qualitative data, 61 unique comments were coded under the primary category of performance, which included

themes of success, individual and team evaluation, and customer satisfaction. Within the primary category, those 61 comments were coded to a specific subcategory: evaluation (29 comments), success (15 comments), standards (8 comments), technology (5 comments), and customer satisfaction (4 comments). After categorizing and subcategorizing, the comments were analyzed by audience. That is, the comments were reviewed to determine attribution to management (manager, supervisors, and team leads), to support staff (systems support technicians and knowledge team members), or to agents. Of the 61 comments made, 39% were made by support staff, 36% were made by agents, and 25% were made by management. Although it appears based on the percentages alone that support staff made a higher number of comments related to the category of performance, when compared against the number of participants in each category, the number of comments are in line with what would be expected across each participant category, which was validated via a chi-square goodness of fit analysis $x^2(2, N = 61) = 2.05, p = .35)$. This chi-square analysis prevents overemphasis on support staff responses versus the responses of management and agents. Table 11 provides a visual summary of the coded data for the category of performance.

Table 11
Summary of Coded Qualitative Data for Performance

Category	Total Comments
Performance	61
Evaluation	29 (48%)
Success	15 (25%)
Standards	8 (13%)
Technology	5 (8%)
Customer satisfaction	4 (6%)

Metrics. The performance metrics provided by the contact center included one quality-based performance metric that was related to first call resolution, three productivity-based performance metrics that were related to average speed of answer, average handle time, and after call work, and data related to attrition and the top five call topics. What was atypical about this contact center was the lack of quality-based performance metrics for agent accuracy, adherence, and customer satisfaction. Although only three interview questions were specific to performance measurement, participants provided 29 unique comments about how their performance was measured (or was not measured as shown by the responses). By reviewing the data that were provided in combination with the knowledge obtained from interviews and observations, it appeared that some changes in the contact center could positively impact the performance metrics of first call resolution and average handle time.

First call resolution. The importance of first call resolution as a contact center performance metric was discussed in chapters 1 and 2. First call resolution, where an

agent is able to resolve the caller's question or issue without having to escalate the call, increases efficiency and improves customer satisfaction. At the contact center under study, the performance goal is a first call resolution of 80%. The contact center is unable to reach this performance goal due in large part to the lack of knowledge provided by the program teams. Specifically, in the performance metrics data provided by the contact center, the first call resolution percentages for March, April, and May of 2008 averaged 71%. Of the 63 calls that were observed, the first call resolution percentage was much lower at 51% (32 calls). The data provided by the contact center does not reflect the number of times that the program teams had to be contacted before the call was resolved so the actual percentage of calls resolved through use of the agents' direct desktop resources may be much lower. For the calls that were observed, 38% (24 calls) were escalated or transferred to the program teams. Table 12 provides a summary of how the 63 observed calls were resolved.

Table 12
First Call Resolution Percentages for Observed Calls

Way in which call was resolved	Example	Percentage
First call/first contact	Caller requested information on when materials could be ordered	51[a]
Escalation to Program Team	Caller questioned specific data to enter in student data file	38
Transfer or referral to other department	Caller needed assistance from technical support or from the state department of education	11

[a]Note that 21% of these calls required an initial contact with the program team because information was not captured in agent resources and 6% of these calls were resolved because the customer self-served while on the phone, meaning that they resolved their issue without agent assistance during the course of the call.

If additional knowledge was available to the agents from their desktops, first call resolution percentages might increase.

Average handle time. The performance goal for the contact center's average handle time is 4 minutes. The average provided in the performance metric data was almost 8 minutes (7.496). From the call observations, it appears that hold times are driving up average handle time. In each of the 13 calls observed where the agent either consulted with a member of the program team and then returned to the customer or consulted with a member of the program team and then transferred the customer to that person, the caller was placed on hold while the consultation was occurring. Similar to first call resolution, if the agents had more knowledge available to them directly from their desktop, the hold times could be reduced thus reducing average handle time and the

cost per call. At a minimum, the contact center may want to look at hold time versus actual handle time to ensure that it is focusing appropriately on the metric. For example, although 4 minutes is the goal, perhaps with the technical nature of some of the calls and the complexity of knowledge, that length of time is not appropriate and the actual average should be higher at 6 minutes or more. By more closely analyzing that metric, the contact center may change its average handle time goal and be closer to realizing a true cost per call.

After call work. During after call work, agents have released the caller either by ending the call through resolution, escalation, or transfer and are documenting brief notes about the nature of the call. The performance goal for the contact center's after call work is 2 minutes and the average provided in the performance metric data was 3 minutes 7 seconds. It is unclear why agents are not able to meet the 2 minute goal because when asked, several participants stated that 2 minutes was more than enough time to complete after call work. Perhaps this target, like the average handle time target, is not realistic and needs to be reviewed. Perhaps there needs to be more of an individual focus on average handle time to ensure those agents that are driving the metric up are being coached on effective after call work performance. The way in which the contact center shared performance data with the agents had some agents concerned that they were being lumped together in one group and that the group metric did not reflect their individual metric.

> So I just always wondered like where we had fallen off the boat and so I feel like maybe if they were addressing whoever or the people who were causing that issue individually maybe something would happen because when you send an e-mail out to the team saying improve ACW [after call work] and I have like a minute

> then I'm like well I'm already improving ACW. . .so that was one area where I thought it could be a little more individualized. (P14)

Individual performance. Coaching individuals on performance issues seemed to be hit or miss at the contact center although the intent to do coaching and more closely monitor performance was both vocalized by management and supported by the agents. "Holding everyone to a proficient standard that you know the customer is getting the same level of support from every agent. That somehow somebody is able to say yes all my agents are proficient in this" (P1).

> We have not had enough staff to do that [call monitoring] on a regular basis. That would be a, is an excellent way to determine if we are providing quality service. It just takes a lot of effort, a lot of labor. We still will do it it's just, every year we say oh yeah we are going to spend the time but then we never have the staff built up. So we hope this year we will be able to do that. (P19)

> For agents I think that would be nice to be like a daily thing, like giving some kind of feedback or an exact thing to work on, or like getting compliments are nice to get every once in a while because I know that they just get like, like we get the weekly e-mail saying that [agent] improved ACW like as a team and I feel like it should be a little bit more and specific to each person. Like giving them individual e-mails or just say hey work on this. (P14)

The acquisition and the addition of new agents and a new project had drawn focus away from performance although there were mechanisms in place to review call tickets, monitor calls, and do more individual coaching with the agents. "The only thing we're consistently measured on is whether we are logged in on time. That's the only thing we receive constant feedback on. And even then it's not even constant" (P13).

> I just I mean the [contact center] has just exploded in the last half year so all those things that they planned on doing, these meetings or whatever, the training you know they just can't do it. The level of support that we have to have to be on the phone, there just is not time for it. (P16)

As Terry (2007) noted, “It is logical that when faced with the decision to answer a customer call or attend training, answering the call will always win” (p. 371).

Some participants were frustrated by outdated technology that was available that impeded their performance with customers. Five comments were collected regarding this topic and the primary point of frustration was not having updated versions of software and other technology. As one participant noted, “If they have MAC 1.7 and I have MAC 1.3, you’re not going to work very good” (P8).

Many participants, when asked how their performance was measured or monitored, were unsure or gave differing answers. Some talked about how performance was measured by first call resolution or after call work time. Some talked about how they were measured by their attendance and being on time to work. Others talked about how they were measured on how completely they filled out their call tickets. Others simply guessed at the metrics for the team. “I guess probably being able to give the correct answer but I don’t know that we’re measured on that” (P1). “Well we get the performance charts I think weekly. I don’t think anyone has listened in on me for close to a year. So I don’t think anybody worries about me so much” (P3). “I don’t think we’re there yet. That’s one of the things we are working on is how do we measure our group for success and there’s not a concrete answer for that question” (P12).

> Yeah well, I know that there are metrics tracked for like first call closure. There’s also knowledge base usage. However, I don’t know what‘s kept track of. I don’t know what rewards or punishments are in place for not meeting things. I know that nobody has ever really talked to me about it when I was an agent. (P2)

Contact center management did want to be more consistent in monitoring calls, completing ticket reviews, and supporting the performance of the agents, and eight comments were made about standardization during the interviews. They did not, however, want to promote a typical contact center culture.

> We also, we've got lots of call stats and sources that come in during the day and we try not to measure people on that. Because one of the things that we found that it does is it causes people to want to compete and we realized that some people are going to go faster and some people are going to go slower and we don't want the slower people to think that the way they are doing it isn't you know isn't as good as the people that are doing it quicker. So we don't want competitions between people because we'll get people just saying oh yeah thanks and hanging up and not doing a full job just to get a number of calls. . .you know so we kind of try to build towards the middle and not an extreme one end of the spectrum to the other. (P5)

In order to ensure that they are running a cost-effective contact center, however, they may need to narrow their focus on individual rather than group performance to improve efficiency through lower average handle time and lower after call work. They also need to work on identifying a way to measure customer satisfaction. Only four comments were made about customer satisfaction, which is somewhat surprising giving the customer service nature of contact center work. Yet when asked about success, which yielded 15 unique comments, all of the comments linked success to a high level of customer satisfaction.

Customer satisfaction. Currently, the contact center is measuring customer satisfaction by customer complaint. With the implementation of a new project, there was a customer satisfaction survey that was being implemented with the project that the contact center management team was hopeful could be applied to other projects. Until

that is successful, the primary way of knowing if a customer was satisfied or dissatisfied was if they, the customer, reported it.

> Well I have to say that it's really not measured. Because you kind of have to take it that they are doing their part or portion of their job, that they are answer the call and giving them the correct answer. Probably the best way to measure that is if the person calls back and says well this is wrong and I don't feel that's probably the most accurate way or the most efficient way but other than having someone else coming back and checking every ticket and every call, I'm really not sure how we would do that. So we kind of rely on customer complaints. (P5)

Trusting that the agents are doing their job means that "customer service levels [are dependent] upon the *de facto* 'ownership' that CSRs took of their own call handling processes" (Russell, 2007, p. 138, emphasis in original). There is no proactive outreach to measure customer satisfaction and this seemed to be supported culturally. As one member of management noted, "The quality stuff is not as critical if the screamers can be kept to a minimum" (E. Herman, personal communication, January 30, 2009). Although this person supported efforts to put measures in place to gauge customer satisfaction, it appeared that this was not supported by higher levels of management. Research has shown, however, that a better understanding of the customer satisfaction experience and their threshold for wait times can reduce contact center overstaffing thus lowering the overall cost of the operation (Braff & DeVine, 2009). "Most companies that analyze their service levels carefully find that some wait times have become more important to customers than others and that overstaffing to hit service targets that customers don't care about is costing them money" (¶8).

Performance summary. Issues with knowledge are impacting the organization's performance metrics. First call resolution is less than the 80% target and average handle

time is higher than the 4 minute target because knowledge is not accessible directly from the agents' desktops. After call work is averaging 1 minute higher than the target of 2 minutes. The growth of the contact center derailed a consistent quality monitoring program but agents want that detail and want additional feedback from management as evidenced from the 29 comments about evaluation. The level of overall customer satisfaction was unknown. Although the contact center wanted to stay away from creating a typical contact center culture, more attention may need to be placed on individual performance and customer satisfaction to ensure that targets are met and customers are getting the knowledge that they need. As one member of management noted, "There's no VP [vice president] at the customer service level asking the kinds of questions you're [researcher] asking about metrics and quality" (E. Herman, personal communication, January 30, 2009). This may be causing a disconnect in customer service between the end user and the organization and a disconnect in the way employees feel about how the organization values the customer service knowledge that they have to contribute to performance improvement.

> I think it's important for the larger organization and for upper management to truly understand how critical customer service is and what the end user experiences. I think we could get a lot of benefit out of that and here's one example is I think we should be involved in product development because these products come out and their created and then all of a sudden we're looking at them going why did they do this because the end user is, the customer is going to think blah because we think like the customer. (P19)

Primary Research Question

The primary research question asked about knowledge loss in the contact center and the operational impacts. In this contact center, knowledge loss occurred primarily

because of failure to capture and resistance to unlearning. Subject matter experts failed to provide knowledge to the contact center and agents failed to adopt processes to add knowledge to the Kaidara knowledge management system and there was no mutual accountability. Neither the subject matter experts nor the agents were incented by the organization to capture and share knowledge. That is, they received no positive reinforcement, no financial incentive, and no performance incentive to contribute. Memory decay and bad habits contributed minimally to knowledge loss. Because attrition was low, participants were able to rely on the tacit knowledge of their peers when they forgot how to complete a task. Remembering passwords was one of the most frequent responses when participants were asked about memory decay and the contact center fielded a lot of password questions from its customers as evidenced by the call observations and the performance metric data. Keeping outdated knowledge in its Kaidara knowledge management system was a bad habit practiced by the contact center and sometimes participants did not check Kaidara before providing responses to customer questions, which resulted in callbacks to customers to correct erroneous answers.

Operationally, first call resolution targets, average handle time targets, and after call work targets were not being met because of knowledge loss. For first call resolution and average handle time targets specifically, lack of knowledge on the agents' desktops limited their ability to resolve calls and caused customers to be kept waiting. Whether that caused satisfaction issues with the customers was unknown because no customer satisfaction mechanism was in place. Agent performance was loosely tracked through review of call tickets, call monitoring, and adherence to first call resolution, average

handle time, and after call work time. Agents were unsure of exactly how their performance was measured and indicated that they wanted more individualized feedback and recognition.

Culturally, there was intent to operate this contact center differently than other contact centers, which is why there was not a strict program in place for quality assurance. Focusing on individual performance improvement, however, could improve the cost effectiveness of the call center through reduced average handle time and reduced after call work time. Populating Kaidara with knowledge, whether from the subject matter experts or the contact center team, is still a primary driver of positively impacting those two metrics as the agents need to have that knowledge available at their fingertips.

When the qualitative data were analyzed and coded into categories and subcategories, the environment of the contact center, the loss of knowledge through memory decay, and individual performance evaluations received the most comments in the primary categories of culture, knowledge, and performance respectively. Although agents enjoy the casual environment of the contact center, they want more individual and more consistent evaluation of their performance and they want everyone held accountable to performance standards. They recognize memory decay as an area of knowledge loss, but have less recognition of failure to capture, and almost no recognition of unlearning and avoiding bad habits or how it negatively impacts their environment.

Subquestion 1. Three subquestions were associated with the primary research question. Subquestion 1 asked where knowledge loss occurred at the individual or organization level. Knowledge loss occurred at both the individual level and the

organizational level. At the individual level, there was attitudinal resistance to change. Subject matter experts did not want to share knowledge because it reduced their power and took away the limited on-the-job recognition that they received. Agents did not regularly take initiative to recommend or write knowledge articles. At the organizational level, standard operating procedures were lacking for project start-ups and contractual uniformity.

Subquestion 2. Subquestion two asked about the contributing factors to knowledge loss. Contributing factors to knowledge loss included culture, leadership support, the breadth of projects supported, and limited follow-through from lessons learned. The culture seemed to support the division between the contact center and the program teams, which fostered knowledge loss. Although leadership support was strong at the contact center level, executive level support seemed limited and there was no executive level customer service position to promote the contact center work and focus on better performance outcomes for operational efficiencies. The sheer volume of projects supported contributed to knowledge loss. With 120 projects, memorization was not possible; therefore, it was necessary to have a knowledge management database from which to access knowledge. Continued issues with project implementations showed that lessons learned from previous events were not institutionalized or made standard.

Subquestion 3: Subquestion three asked how knowledge loss influenced the contact center's productivity and quality metrics. Because knowledge was not readily available to the agents, first call resolution was lower than targeted while average handle time and after call work time were higher than targeted. Quality metrics related to call

accuracy and customer satisfaction were absent thus leaving a sizable gap in performance knowledge.

Mode of forgetting matrix. Martin de Holan et al.'s (2004) mode of forgetting matrix, which was used as the conceptual framework for this study and shown in Figure 1, enabled knowledge loss to be segmented into specific dimensions and to be understood from the perspective of accidental or intentional loss and new knowledge or old knowledge. In this contact center, knowledge loss was both accidental and purposeful and the source of knowledge was both old and new. Table 13 provides examples taken from this study for each dimension.

Table 13
Examples of Knowledge Loss Using the Mode of Forgetting Matrix

Mode of Forgetting	Examples from the Study	As Observed in the Study
Memory Decay	Forgetting how to complete a task and asking peer for assistance Forgetting passwords	Interviews: 37 unique comments regarding memory decay Observations: 30 unique calls about lost passwords and password resets Documentation review: Focus on finding user identification information in the new project training, which anticipated issues with user logon and credentials Performance Metrics: 8,230 calls in 1-year period for password issues
Failure to Capture	Reliance on tacit experience because explicit knowledge not available	Interviews: 11 unique comments regarding failure to capture Observations: 23 calls transferred to program team because current knowledge not in Kaidara Documentation review: Limited use of e-mail to transfer knowledge not captured in Kaidara; word of mouth was preferred transfer method Performance metrics: 8 minute average handle time; goal is 4 minutes

table continues

Mode of Forgetting	Examples from the Study	As Observed in the Study
Unlearning	Resistance to sharing knowledge Resistance to reorganization and cultural changes	Interviews: 9 unique comments regarding unlearning Observations: 18 unique calls regarding a particular state where the program team provided no project knowledge to the contact center Documentation review: Training was available for new project, but refresher training/other training materials limited for existing projects Performance metrics: 71% first call closure rate; goal is 80%
Avoiding bad habits	Including outdated knowledge in the Kaidara knowledge management system Ambivalence about submitting updated knowledge	Interviews: 4 unique comments regarding avoiding bad habits Observations: 6 unique calls where assumptions were made that some other person had requested that the updated knowledge be added to Kaidara and the agent took no further action Documentation review: Some knowledge exchanged in e-mails rather than added to Kaidara Performance metrics: Goal for knowledge database contributions not established

Chapter Summary

Chapter 4 included a detailed description of the field research activities that involved interviews and observations and the receipt of performance metric data that contributed to the body of knowledge that was available for analysis. The role of the researcher, as the primary data collection instrument, was discussed. Results were then discussed through the three broad categories of culture, knowledge, and performance. Within these three broad categories, specific findings were shared that showed where loss occurred at the individual and organizational level, what factors promoted and prevented the event, and the relationship between loss and performance.

The culture of this contact center was atypical because of a diminished focus on performance metrics that created a more relaxed atmosphere and because of a lower than average attrition. Overall, participants spoke highly of leadership support and found the environment to be positive, although there were concerns about the economy and about the recent reorganization of staff that had taken place. Using Martin de Holan et al.'s (2004) mode of forgetting matrix as the conceptual framework to pinpoint specific areas of loss showed that knowledge loss that had considerable impact on performance was primarily caused by failure to capture, unlearning, and avoiding bad habits, while knowledge loss due to memory decay, although evident, had less of an impact on performance. Loss was largely purposeful and magnified by old knowledge that cluttered the primary knowledge resource tool for agents. Chapter 5 includes a summary of the study, the conclusions that were drawn, recommendations for further research, and implications for social change.

CHAPTER 5: SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Introduction

This chapter includes a summary of the research, conclusions about the findings, recommendations for action and further study, researcher's reflection, the implications for social change, and concluding statement.

Summary

The problem addressed in this study concerned the low awareness that organizations have of how knowledge loss occurs in their environment, how it impacts their performance, and how its omission in the routine practice of knowledge management by the organization creates knowledge gaps. The purpose of this mixed model case study was to understand where and why loss occurred and to examine implications on performance metrics, which might help create better performance outcomes within organizations engaged in the practice of knowledge management. In addition, the purpose of the study was to contribute to literature related to knowledge loss, knowledge management, and contact center work by offering research directly related to those areas.

The contact center was selected as the organization under study because the concept of knowledge loss had not been explored in this particular type of organization and because the contact center is a highly dynamic and knowledge intensive environment currently undergoing prolific changes regarding knowledge complexity and performance measurement, which offered an opportunity to explore the intersection of knowledge

management, learning management, organizational culture, organizational change, and organizational performance.

The primary research question asked about knowledge loss in the contact center and the operational impacts. More specifically, three subquestions associated with this primary question concerned where knowledge loss occurred at the individual and/or organizational level, what the contributing factors were, and how it influenced the contact center's productivity and quality metrics. The case study research design enabled an exploration of the subtleties, nuances, and contextual situations inherent in knowledge management processes, including knowledge loss and knowledge discard, which are intimately connected to organizational culture, organizational change, and human involvement.

To further focus this study, Martin de Holan et al.'s (2004) mode of forgetting matrix served as the conceptual framework. Applying this framework to the present study demonstrated the mode of forgetting and the source of knowledge as valid dimensions of knowledge loss. It also served to pinpoint specific areas of attention for the contact center organization and its knowledge management practices.

The findings indicated that contributing factors to knowledge loss included culture, leadership support, the breadth of projects supported, and limited follow-through from lessons learned. Knowledge loss occurred primarily because of failure to capture and resistance to unlearning. Operationally, first call resolution targets and average handle time targets were not being met because of knowledge loss. Culturally, there was intent to operate this contact center differently than other contact centers, which is why

there was not a strict program in place for quality assurance. Knowledge loss occurred at both the individual level and the organizational level. At the individual level, there was attitudinal resistance to change. At the organizational level, standard operating procedures were lacking for project start-ups and contractual uniformity.

Conclusions

Chapter 1 began with a discussion of the infoglut, which is a term that Baker (2006) used to describe situations where organizations had captured significant amounts of knowledge, but were then overwhelmed by it. Although the contact center under study was not overwhelmed with current knowledge in its knowledge management database and its agent resources, it was weighed down with outdated knowledge that was frustrating for agents and had the potential to increase the search time for agents to find relevant knowledge thereby increasing average handle time and cost per call. This shows that equal attention must be given to knowledge discard in knowledge management frameworks that to date have focused on generation, capture, and storage.

Previous research on knowledge loss demonstrated that knowledge loss impacted organizational performance and that factors attributed to knowledge loss included accidental forgetting, purposeful resistance to new knowledge, lack of leadership support or reinforcement, and disuse (Benkard, 2000; Darr, Argote, & Epple, 1995; Ibrahim, 2005; Martin de Holan & Phillips, 2004; Martin de Holan, Phillips, & Lawrence, 2004; Thompson, 2007). As shown in Table 13, this study supported the findings of the previous research. Organizational performance metrics in the contact center related to first call resolution and average handle time appeared to be impacted by knowledge loss

and the factors attributed to knowledge loss were linked to leadership support, failure to capture, resistance to unlearning, and practicing bad habits.

Knowledge management requires a blended stream of attention to technology, culture, and people (Davenport & Prusak, 2000; Nonaka & Takeuchi, 1995). While technology and leadership can foster knowledge transfer, organizations cannot solely rely on one or the other and this study upheld that premise. The contact center had implemented a knowledge management solution that was linked directly to its ticket tracking software that made it easy for the agents to search for knowledge while they were servicing the customer. Moreover, the leadership support in the immediate contact center was high and knowledge transfer within the immediate contact center was occurring with some frequency. To operate successfully, however, the contact center relied upon knowledge transfer from various program teams within the organization and that was not happening. Impeding this transfer of knowledge to the contact center was a cultural resistance to unlearning and contract standardization that permeated the program teams and the organization at large. Therefore, although technology was in place and leadership support was present in the immediate contact center, the culture worked against the knowledge transfer process, which led to knowledge loss in this organization.

The problem addressed in this study concerned the low awareness that organizations have of how knowledge loss occurs in their environment and how it impacts their performance. Although there was high awareness in this organization that the program teams were failing to transfer knowledge, there was low awareness of how this actually impacted performance. Although targets had been set for first call resolution

and average handle time, the performance metric data provided by the organization showed that the targets were not being met and this was evidenced during the onsite observations as well. Agents were unable to answer customer questions because knowledge was not available through the direct resources that they were to use. Of the 63 calls observed, first call resolution averaged 51% compared to the target of 80%. And in 21% of those cases, the agents had to consult with the program teams before being able to provide the customer with a response. While these consultations were occurring, the caller was on hold, which was driving up average handle time almost 4 minutes above the target.

The targets established by the contact center for first call resolution and average handle time may not be appropriate given the changes that are happening globally in the contact center environment. According to the Customer Contact Council (2007), there is a shift "toward complexity. . .not only driven by a migration of 'easier' contacts to self-service but also by an increase in customer expectations" (p. 4, emphasis in original). Given the complexity of knowledge, more time may be needed by the agents to address the caller's questions. An 80% first call resolution target may not be achievable if agents are not prepared to handle this complexity (Hillmer et al., 2004). Before the contact center can focus on those questions, the knowledge loss caused by failure to capture and unlearning must be addressed to more fully understand how the agents can perform in an optimal situation with a full complement of current knowledge available to them.

This study offered the opportunity to see elements of Lewin's (1951/1997) three-step organizational change model in action. The contact center had undergone reorganization and it seemed as if the reorganization had pushed the team into the first step of change, unfreezing, as identified by Lewin. It is during the first step, unfreezing, where the concept of breaking away is applicable. This step sometimes requires deliberate action to shake the group from its complacency or inertia. An event must happen, like this reorganization, for the group to be motivated to change. The purpose of the reorganization, according to management, was to more appropriately align roles and responsibilities and ensure that dedicated staff were supporting key areas like knowledge management, systems support, and metrics and reporting. At the time of the study, it appeared that the team was in Lewin's second step of change, that of moving or being in a transitory period, and there was lingering bitterness about the hiring decisions. This dissent is not uncommon in periods of organizational change. "The implementation process is messy. Things don't proceed exactly as planned; people do things their own way, not always according to the plan; some people resist or even sabotage the process" (Burke, 2002, p. 2).

Resistance to change perpetuated intentional knowledge loss in this environment because program teams were reluctant to transfer knowledge because it reduced their power and took away the limited on-the-job recognition that they received. Agents did not regularly take initiative to recommend or write knowledge articles. There was no mutual accountability, but this was supported culturally by the organization and by leadership.

Researcher Reflection

As described in chapter 4, the researcher's experience with the site under study was positive and it served to reinforce her decision to use the qualitative case study methodology. Engaging in the environment gave the researcher the opportunity to see issues in practice and promoted knowledge sharing from the participants because she was onsite. The researcher understands that every case is unique and that the same receptivity shown to her here may be different in other cases.

The researcher made known that she was a knowledge manager in a contact center environment, which may be perceived as a source of bias. All precautions were taken to limit bias and properly present the results of the research. The researcher was aware, however, of the significant cultural differences at the case under study regarding the de-emphasis on individual performance metrics, which is atypical in the contact center culture. Although there were similarities between the case study organization and the researcher's organization, the cultures were vastly different, which supports Schein's (2004) assessment:

> One of the most mysterious aspects of organizational culture is how it comes to be that two companies with similar external environments, working in similar technologies on similar tasks and with founders of similar origins, come to have entirely different ways of operating over the years. (p. 225)

Even though performance metrics were limited, they still provided a point of triangulation with the qualitative data and aligned with the mixed method research design chosen by the researcher.

Recommendations for Action

The results of this study demonstrated that Martin de Holan et al.'s (2004) mode of forgetting matrix can be used collaboratively with the interview questions available in Appendix B to pinpoint areas of knowledge loss in organizations. This enables organizations to focus their efforts on areas of loss that are most prevalent rather than trying to address all modes of forgetting, which include failure to capture, memory decay, unlearning, and avoiding bad habits. It also enables organizations to understand the kind of support that might be necessary to minimize loss.

For example, if knowledge loss is found to be caused predominantly by memory decay, organizations may need to support technology that allows users to automatically reset their passwords when they forget them or support technology that allows a single user identification and password for all of an organization's resources to make it easier for the customer to access knowledge. Implementation of this type of technology should be considered by the organization under study to reduce password reset calls thus enabling the agents to handle more complex, critical calls and reducing the high labor cost of answering relatively simple password questions. If knowledge loss is caused predominantly by failure to capture, organizations may need to support efforts to make tacit and experiential knowledge explicit. For contact centers, this can happen through additional on the job training, mentoring, and coaching. If knowledge loss is caused predominantly by bad habits, organizations may need to support more rigorous performance monitoring so that they can eliminate bad habits at the individual and team level.

The organization under study needs to implement some type of incentive program that rewards employees for avoiding bad habits and contributing knowledge to the Kaidara database. A simple reward and recognition program that acknowledges through verbal or written channels those employees or teams that share knowledge can be effective, particularly in an environment where this type of feedback is desired. Management can choose to recognize knowledge contributors privately through e-mail or publicly through team meetings, newsletters, or other corporate communication vehicles for no to low cost. In time, the organization, with feedback from the employees, can determine if additional incentives, including performance-based financial incentives, would be an appropriate next step in continuing to motivate employees to share knowledge. At present, a pat on the back from management would go a long way in this organization in motivating employees, particularly the subject matter experts, to share knowledge. Praise for their work efforts should not be coming from external sources only.

Executive leadership in this organization must put an end to fiefdoms and ensure that cross-functional teams are working toward a common goal of servicing its customers satisfactorily and cost-effectively. To that end, this organization must establish and make known what those goals are and how the individual, the team, and the organization will work toward achieving those goals. Establishing an executive level customer service leader that is focused on customer satisfaction and the cost-effectiveness of how the organization services its customers might be helpful. For organizations in general, an incentive program might help those whose knowledge loss is caused predominantly by

unlearning as well, but it will require a significant amount of leadership support and organizational change because resistance to unlearning and bad habits can be embedded into the very culture of an organization, its attitudes, values, assumptions, and traditions.

With the almost limitless storage capacities available today, organizations must incorporate knowledge discard into their knowledge management cycles and must recognize that even with a mature model of generation, capture, and storage, knowledge loss can still occur. Specifically, chief knowledge officers, knowledge managers, and those engaged in knowledge management practices must be aware of the presence of knowledge loss. For contact centers in particular where one additional minute of call time can result in millions of dollars in additional labor hours, identifying areas of knowledge loss and working to minimize those areas can potentially improve the bottom line. The amount of improvement will depend on how the changes in the contact center environment related to knowledge complexity and first call resolution impact costs over time.

Recommendations for Further Study

This study pulled together the body of literature related to organizational forgetting and knowledge and extended that literature by offering additional insight into how and where knowledge loss occurs and how it impacts organizational performance. Focus was placed on understanding knowledge loss that occurred with organizational members with more permanent, continuous tenure. That is, this research was more focused on knowledge loss due to a changing environment with workers that persisted in the organization. This direction was chosen because literature about knowledge loss

caused by attrition was more prevalent, but it does not help organizations address knowledge loss issues perpetuated by employees whose tenure contributes to and shapes the cultural environment. More research needs to be done in this area to more fully explore the intersection of knowledge management, organizational culture, organizational change, and organizational performance.

This study offers researchers and practitioners a conceptual framework from which to operate in order to pinpoint areas of knowledge loss. Applying the framework to additional studies or applying the framework in practice may lead to more meaningful understanding of accidental and intentional knowledge loss and create a body of knowledge on ways in which loss can be minimized, whether that be through technology, culture, human capital, or some combination thereof.

Further research needs to show more empirically the connection between knowledge loss and organizational performance. Because the case under study in this research was limited in the data that it could provide, strengthening the quantitative component of future mixed model studies or conducting pure quantitative studies may be necessary to gain additional attention to this phenomenon, particularly at the executive level. In addition, further research should examine the efficacy of contact center metrics to ensure that organizations are focused on metrics that are proven to positively impact performance and customer satisfaction and to ensure that the metric thresholds (e.g., average handle time target, after call work time target) are accurately set given the complexity of the call. Four minutes may no longer be a realistic target for average

handle time at the organization under study because of the nature of the customer's question and the complexity of the answer.

This study focused exclusively on the contact center agents and the department in which they worked. Researchers should consider broadening the participant pool to other key organizational members to allow for additional insight. For example, interviewing additional executive level staff may have provided alternative cultural viewpoints that may have contributed to a more comprehensive study.

Examining what motivates employees to share knowledge or populate information and data into knowledge management tools is also worthy of further study. Determining success factors and best practices specific to knowledge workers and knowledge intensive organizations can position chief knowledge officers, customer service executives, and management staff to quickly implement an effective reward and recognition program. This could lead to a higher number of employees submitting content into an organization's knowledge management tool and lead to an increased exchange of knowledge throughout the organization. Moreover, organizations may find that they can implement a program at minimal cost because employees desire psychological and social benefits over financial benefits.

Moving forward, coming to some type of consensus regarding knowledge loss and the terminology surrounding it will be necessary. Even if researchers choose to use the term organizational forgetting instead of knowledge loss, cross-referencing the article with relevant or predominant search terms can pull the body of research together in a more cohesive fashion. Despite the lack of consistency in terminology, research on

knowledge loss should not be undermined by it. Continuing research on knowledge management and its various dimensions, like knowledge loss, is important and worth discussing, as is showing its practical value.

Social Change Significance

Previous studies identified that knowledge loss impacts organizational performance (Benkard, 2000; Cha, 2007; Darr et al., 1995; Ibrahim, 2005; Martin de Holan & Phillips, 2004; Martin de Holan et al., 2004; Thompson, 2007). Building upon those studies, this study explored the phenomenon of knowledge loss, where it existed and why, what factors contributed to it, and how performance metrics were influenced because of it, in the highly dynamic, knowledge intensive environment of the contact center organization. This appeared to be the first study to apply the mode of forgetting matrix (Martin de Holan et al., 2004) to a contact center environment. This study contributes to the ongoing dialogue about the phenomenon of knowledge loss, what dimensions of loss and forgetting are prevalent, and organizational performance implications, thus bridging a gap in the literature.

The social change significance of this research is that it increases knowledge loss awareness, pinpoints specific areas of loss, and illustrates knowledge loss's rightful place in knowledge management models for better performance outcomes. Specifically, the results of the study demonstrate that more awareness must be given to knowledge loss because it has direct implications on contact center organizational performance and cost per call. Moreover, knowledge loss at the organizational level because of lack of standardization and failure to learn from experience puts fiscal sustainability and the

ability to generate new revenue at risk, which can lead to social change issues of downsizings, layoffs, and organizational closures.

Purposeful knowledge loss must be embedded into knowledge management frameworks and institutionalized as part of everyday knowledge and learning management practice. Failure to incorporate purposeful knowledge loss lengthens time to customer resolution because employees are unable to quickly locate relevant knowledge amid outdated knowledge and increases the risk that employees will abandon knowledge management systems due to obsolescence thereby significantly reducing any return on investment of these systems, which are expensive to implement.

The findings can lead to meaningful discussion about the place of knowledge loss in knowledge management models and how to manage accidental or purposeful forgetting using a combination of culture, human capital, and technology. The findings also provide some illumination on the ways to strategically structure an organization to minimize forgetting and call into question whether attitudinal resistance to change may be linked to the types of people employed in contact center positions and the pay that is provided in said positions to transfer knowledge that is becoming increasingly more complex, which is worthy of further study. For contact center organizations, understanding knowledge loss and ways to mitigate it can influence organizational performance and ensure that those working on the front lines with the customers are building brand loyalty through exceptional customer service that is directly supported by knowledge availability and the ability to resolve the initial call.

Concluding Statement

Knowledge loss is often overlooked in knowledge management frameworks, yet it costs organizations money, personnel, efficiency, and customer service, which previous studies have demonstrated on a limited scale (Benkard, 2000; Darr et al., 1995; Martin de Holan et al., 2004; Thompson, 2007). In a knowledge intensive environment like the contact center, if knowledge is lost or not assimilated, accuracy, consistency, adherence, and handle time can be negatively impacted. Multiplication of these issues can impact overall customer service and profitability. Minimizing loss first requires awareness. Individuals are aware of knowledge loss through routine memory decay and failure to capture, but are not always consciously aware of knowledge loss through unlearning and avoiding bad habits. Organizations are not aware of how loss impacts their service and their performance. Once they become aware, minimizing loss requires leadership support, cultural change, and knowledge management frameworks that include purposeful knowledge discard so organizations are not overwhelmed by what they worked so diligently to capture. Researchers and practitioners have an opportunity to develop knowledge management frameworks where knowledge discard is equal to generation, capture, and storage, and where knowledge loss can be identified in order to help organizations be more successful in their knowledge management efforts.

REFERENCES

Ackerman, M. S., & Halverson, C. A. (2000). Reexamining organizational memory. *Communications of the ACM, 43*(1), 59-64. Retrieved from http://cacm.acm.org/.

Adair, K. (2004). Knowledge management: A misjudged instrument of strategic change? *Organization, 11*(4), 565-574. doi: 10.1177/1350508404042368

Akgun, A. E., Lynn, G. S., & Byrne, J. C. (2006). Antecedents and consequences of unlearning in new product development teams. *Journal of Product Innovation Management, 23*(1), 73-88. doi: 10.1016/j.im.2007.08.001

Allen, P. M. (2001). A complex systems approach to learning in adaptive networks. *International Journal of Innovation Management, 5*(2), 149-180. Retrieved from http://www.worldscinet.com/ijim/.

Argote, L., McEvily, B., & Reagans, R. (2003). Managing knowledge in organizations: An integrative framework and review of emerging themes. *Management Science*, *49*(4), 571-582. Retrieved from http://www.informs.org/site/ManSci/.

Arnett, J. S. (2007). *Learning from the past: Baseball commissioners Landis and Giamatti and the transferability of crisis leadership*. Retrieved from ProQuest Digital Dissertations. (AAT 3277195)

Bailor, C. (2007). Wise guide. *CRM Magazine, 11*(6), 34-38. Retrieved from http://www.destinationcrm.com/.

Baker, E. H. (2006). The infoglut, writ small. *CIO Insight, 68*(Suppl. 68), 15. Retrieved from http://www.cioinsight.com/.

Benkard, C. L. (2000). Learning and forgetting: The dynamics of aircraft production. *American Economic Review, 90*(4), 1034-1054. Retrieved from http://www.aeaweb.org/aer/index.php.

Braff, A., & DeVine, J. (2008). Maintaining the customer experience. *McKinsey Quarterly.* Retrieved from http://www.mckinseyquarterly.com/.

Burke, W. W. (2002). *Organizational change: Theory and practice*. London: Sage Publications.

Burns, R. B. (2000). *Introduction to research methods* (4th ed.). London: Sage Publications.

Carmichael, M. H. (2000). *The sustenance and retention of knowledge capacity within the American corporate organization*. Retrieved from ProQuest Digital Dissertations. (AAT 9970483)

Callaghan, G., & Thompson, P. (2002). "We recruit attitude": The selection and shaping of routine call centre labour. *Journal of Management Studies*, *39*(2)*,* 233-255. Retrieved from http://www.wiley.com.

Cha, H. S. (2007). *Disrupting the management supply chain: An organizational learning model of IT offshore outsourcing*. Retrieved from ProQuest Digital Dissertations. (AAT 3272847)

Creswell, J. W. (2003). *Research design: Qualitative, quantitative, and mixed methods approaches* (2nd ed.). Thousand Oaks, CA: Sage Publications.

Creswell, J. W., & Plano Clark, V. L. (2007). *Designing and conducting mixed methods research*. Thousand Oaks, CA: Sage Publications.

Cross, C., Barry, G., & Garavan, T. P. (2008). The psychological contract in call centres: An employee perspective. *Journal of Industrial Relations, 50*(2), 229-242. Retrieved from http://jir.sagepub.com/.

Culture. (n.d.). In *Merriam-Webster online dictionary*. Retrieved October 12, 2008, from http://www.merriam-webster.com.

Customer Contact Council 2006 Member Meetings Onsite Materials (2006). *Building the next generation of customer contact talent.* Customer Contact Council, Corporate Executive Board, Washington, DC.

Customer Contact Council Best Practices Research (2007). *Creating sustainable knowledge management.* Customer Contact Council, Corporate Executive Board, Washington, DC.

Darr, E. D., Argote, L., & Epple, D. (1995). The acquisition, transfer, and depreciation of knowledge in service organizations: Productivity in franchises. *Management Science, 41*(11), 1750-1762. Retrieved from http://www.informs.org/site/ManSci/.

Davenport, T., & Prusak, L. (2000). *Working knowledge*. *How organizations manage what they know.* Boston: Harvard Business School Press.

Dawson, K. (2005). Targeted training at the desktop*. Call Center Magazine*, *18*(4)*,* 12-18. Retrieved from http://www.callcentermagazine.com/.

Dixon, N. (2002). The neglected receiver of knowledge sharing. *Ivey Business Journal, 66*(4), 35-40. Retrieved from http://www.iveybusinessjournal.com/.

Downing, J. R. (2004). It's easier to ask someone I know. Call center technician's adoption of knowledge management tools. *Journal of Business Communication, 41*(2), 166-191. doi: 10.1177/0021943603262140

Equal Employment Opportunities Trust (2007). *Work-life balance, employee engagement and discretionary effort: A review of the evidence*. Equal Employment Opportunities Trust, Auckland, New Zealand.

Fedor, D. B., Ghosh, S., Caldwell, S. D., Maurer, T. J., & Singhal, V. R. (2003). The effects of knowledge management on team members' ratings of project success and impact. *Decision Sciences, 34*(3), 513-539. doi: 10.1111/j.1540-5414.2003.02395.x

Fiol, C. M., & Lyles, M. A. (1985). Organizational learning. *Academy of Management Review, 10*(4), 803-813. Retrieved from http://www.aom.pace.edu/amr/.

Fluss, D. (2002). Why knowledge management is a dirty word. *Customer Interface, 15*(2), 40-41. Retrieved from http://www.questex.com.

Galpin, T. J. (1996). *The human side of change*. San Francisco: Jossey-Bass.

Gilbert, K. R. (Ed). (2001). *The emotional nature of qualitative research.* Boca Raton, FL: CRC Press.

Herman, E. M. (2006). *Specialized knowledge area module VII: Research case studies in education.* Unpublished manuscript. Walden University, Minneapolis, MN.

Herman, E. M. (2007). *Specialized knowledge area module VI: Organizational change models*. Unpublished manuscript. Walden University, Minneapolis, MN.

Heyes, J. (2002). Jason Heyes rounds up the latest HRM Studies. *People Management, 8*(19), 62. Retrieved from http://www.peoplemanagement.co.uk/Index.html.

Higgins, D. (2006). Theoretical assumptions of knowledge creation. *Irish Journal of Management, 27*(2), 189-213. Retrieved from http://www.iamireland.com/Irishjournalofmanagement.htm.

Hillmer, S., Hillmer, B., McRoberts, G. (2004). The real costs of turnover: Lessons from a call center. *Human Resource Planning, 27*(3), 34-41. Retrieved from Business Source Premier.

Hillmer, S., & Kocabasoglu, C. (2007). Improving quality and productivity via stratification: A call center example for forming homogenous employee groups. *Quality Management Journal, 14*(1), 19-29. Retrieved from http://www.asq.org/pub/qmj/.

Hsu, S., & Shen, H. (2005). Knowledge management and its relationship with TQM. *Total Quality Management, 16*(3), 351-361. doi: 10.1080/14783360500054111

Ibrahim, R. (2005). *Discontinuity in organizations: Impacts of knowledge flows on organizational performance*. Retrieved from ProQuest Digital Dissertations. (AAT 3171646)

Infoglut. (n.d.). In *Dictionary.com's 21st century lexicon*. Retrieved July 27, 2009, from http://www.dictionary.com.

Isabella, L. (1990). Evolving interpretations as a change unfolds: How managers construe key organizational events. *Academy of Management Journal*, *33*(1), 7-41. Retrieved from http://www.aom.pace.edu/amj/.

Janesick, V. J. (2004). "*Stretching" exercises for qualitative researchers* (2nd ed.). Thousand Oaks, CA: Sage Publications.

Johnson, R. B., & Christensen, L. (2004). *Educational research: Quantitative, qualitative, and mixed approaches* (2nd ed.). Boston: Pearson Education.

Johnson, R. B., & Onwuegbuzie, A. J. (2004). Mixed methods research: A research paradigm whose time has come. *Educational Researcher, 33*(7), 14-26. doi: 10.1080/13645570500402447

Kerber, L. K. (1997). *Toward an intellectual history of women*. Chapel Hill, NC: The University of North Carolina Press.

Kinnie, N., Hutchinson, S., & Purcell, J. (2000). 'Fun and surveillance': The paradox of high commitment management in call centres. *International Journal of Human Resource Management, 11*(5), 967-985. doi: 10.1080/095851900422375

Kransdorff, A. (1999). Applying experiential learning to work. *Knowledge Management Review, 2*(3), 12-15. Retrieved from http://www.melcrum.com/.

Kuhn, T., & Jackson, M. H. (2008). Accomplishing knowledge: A framework for investigating knowing in organizations. *Management Communication Quarterly, 21*(4), 454-485. Retrieved from http://mcq.sagepub.com/.

Kuwada, K. (1998). Strategic learning: The continuous side of discontinuous strategic change. *Organization Science, 9*(6), 719-736. Retrieved from http://orgsci.journal.informs.org/.

Laff, M. (2007). The future of learning and work: Big thinkers forecast the next big moves. *T&D, 61*(12), 40-44. Retrieved from http://www.astd.org.

Lei, D., Slocum, J. W., Pitts, R. A. (1999). Designing organizations for competitive advantage: The power of unlearning and learning. *Organizational Dynamics, 27*(3), p. 24-38. Retrieved from http://www.elsevier.com.

Lesser, E., & Prusak, L. (2001). Preserving knowledge in an uncertain world. *MIT Sloan Management Review, 43*(1), 101-102. Retrieved from http://sloanreview.mit.edu/.

Lewin, K. (1997). *Resolving social conflicts and field theory in social science*. Washington, DC: APA. (Original works published in 1948 and 1951 respectively)

Leybourne, S. (2006). Managing change by abandoning planning and adopting improvisation. *Journal of General Management, 31*(3), 11-29. Retrieved from http://www.braybrooke.co.uk/.

Loewenstein, G., Moore, D. A., & Weber, R. (2003). Paying $1 to lose $2: Misperceptions of the value of information in predicting the performance of others. *Academy of Management Proceedings,* C1-C6. Retrieved from http://www.aomonline.org/.

Martin de Holan, P., & Phillips, N. (2004). Remembrance of things past? The dynamics of organizational forgetting. *Management Science*, *50*(11), 1603-1613. doi: 10.1287/mnsc.1040.0273

Martin de Holan, P., Phillips, N., & Lawrence, T. B. (2004). Managing organizational forgetting. *MIT Sloan Management Review*, *45*(2), 45-51. Retrieved from http://sloanreview.mit.edu/.

Merriam, S. B. (1998). *Qualitative research and case study applications in education.* San Francisco: Jossey-Bass.

Merriam, S. B., & Simpson, E. L. (1995). *A guide to research for educators and trainers of adults* (2nd ed.). Malabar, FL: Krieger Publishing.

Merrill-Matzner, J. C. (2006). *A network analysis of information use in a public health organization*. Retrieved from ProQuest Digital Dissertations. (AAT 3199574)

Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis* (2nd ed.). Thousand Oaks, CA: Sage Publications.

Nelson, D. K. (2007). *A framework for developing knowledge maps for a not-for-profit firm: a case study*. Retrieved from ProQuest Digital Dissertations. (AAT3282046)

Nonaka, I., & Takeuchi, H. (1995). *The knowledge-creating company*. New York: Oxford University Press.

Osterloh, M., & Frey, B. S. (2000). Motivation, Knowledge Transfer, and Organizational Forms. *Organization Science, 11*(5), 538-550. Retrieved from http://orgsci.journal.informs.org/.

Pfeiffer, E. (2006). Taming the beast. *CIO Insight, 68*(Suppl. 68), 46-56. Retrieved from http://www.cioinsight.com/.

Rothfeder, J. (2006). Get a grip. *CIO Insight, 68*(Suppl. 68), 16-24. Retrieved from http://www.cioinsight.com/.

Rowold, J., Hochholdinger, S., & Schilling, J. (2008). Effects of career-related continuous learning: A case study. *The Learning Organization, 15*(1), 45-57. Retrieved from http://www.emeraldinsight.com.

Russell, B. (2007). 'You gotta lie to it': Software applications and the management of technological change in a call centre. *New Technology, Work and Employment, 22*(2), 132-145. doi: 10.1111/j.1468-005X.2007.00189.x

Saggese, A. (2004). Product knowledge is the key to running successful call centres. *Precision Marketing, 17*(7), 12-13. Retrieved from Business Source Premier.

Schein, E. (2004). *Organizational culture and leadership* (3rd ed.). San Francisco: Jossey-Bass.

Senge, P. M. (2006). *The fifth discipline: The art and practice of the learning organization* (Rev. ed.). New York: Doubleday.

Senne, T. A., & Rikard, G. L. (2002). Experiencing the portfolio process during the internship: A comparative analysis of two PETE Portfolio Models. *Journal of Teaching in Physical Education, 21*(3), 309-336. Retrieved from http://hk.humankinetics.com/JTPE.

Sherwood, D. (2000). The unlearning organization. *Business Strategy Review, 11*(3), 31-40. Retrieved from http://www.wiley.com.

Shiu, L., & Chan, T. (2006). Unlearning a stimulus-response association. *Psychological Research, 70*(3), 193-199. doi: 10.1007/s00426-004-0201-x

Sturdy, A., & Fleming, P. (2003). Talk as technique—a critique of words and deeds distinction in the diffusion of customer service cultures in the call centres. *Journal of Management Studies, 40*(4), 753-773. doi: 10.1111/1467-6486.00359

Tashakkori, A., & Teddlie, C. (1998) *Mixed methodology: Combining qualitative and quantitative approaches*. Thousand Oaks, CA: Sage Publications.

Terry, C. (2007). Enabling staff to access the knowledge they need, when they need it. *Industrial and Commercial Training, 39*(7), 368-371. doi: 10.1108/00197850710829076

Thompson, M., & Heron, P. (2005). The difference a manager can make: Organizational justice and knowledge worker commitment. *International Journal of Human Resource Management, 16*(3), 383-404. doi: 10.1080/0958519042000339561

Thompson, P. (2007). How much did the Liberty shipbuilders forget? *Management Science, 53*(6), 908-918. Retrieved from http://mansci.journal.informs.org/.

Thompson, P., Warhurst, C., & Callaghan, G. (2001). Ignorant theory and knowledgeable workers: Interrogating the connections between knowledge, skills, and services. *Journal of Management Studies, 38*(7), 923-942. Retrieved from http://www.wiley.com.

Treleaven, L., & Sykes, C. (2005). Loss of organizational knowledge. From supporting clients to serving head office. *Journal of Organizational Change Management, 18*(4), 353-368. doi: 10.1108/09534810510607056

Tschida, T. (2005). Start calling on your call centers. *Gallup Management Journal*. Retrieved from http://gmj.gallup.com.

Tsoukas, H. (1996). The firm as a distributed knowledge system: a constructionist approach. *Strategic Management Journal*, *17*(Special Issue), 11-25. Retrieved from http://www.wiley.com.

UK Department of Trade and Industry Study (2004). *The UK contact centre industry: A study*. CM Insight, ContactBabel, Call and Contact Centre Association on behalf of the UK Department of Trade and Industry, London.

van den Broek, D. (2004). 'We have the values': customers, control and corporate ideology in call centre operations. *New Technology, Work, and Employment, 19*(1), 2-13. doi: 10.1111/j.1468-005X.2004.00124.x

Yin, R. K. (2003). *Case study research design and methods* (3rd ed.). Thousand Oaks, CA: Sage Publications.

APPENDIX A: COPYRIGHT PERMISSIONS

From: Jinette Ramos
Sent: Tuesday, July 29, 2008 10:19 AM
To: Elizabeth Herman
Subject: Permission to Reprint (de Holan, Phillips, & Lawrence)

Dear Ms. Herman,

Thank you for the information. We are more than happy to grant you permission to use one of our figures/tables within your dissertation free of charge.

Please give full credit to MIT Sloan Management Review.

Best regards,
Jinette Ramos

Jinette Ramos
MIT Sloan Management Review
77 Massachusetts Avenue, E60-100
Cambridge, MA 02139-4307
Tel: 617-253-7170
Toll Free: 877-727-7170 (U.S., Canada only)
Fax: 617-258-9739
http://www.sloanreview.mit.edu

From: Doug Nelson
Sent: Tuesday, April 08, 2008 8:13 AM
To: Elizabeth Herman
Subject: Potential Use of Research

Hello Elizabeth,

Understanding the pressure you are working under to complete your research, please feel free to utilize any material in my research that you would find beneficial. The question set is one that I developed.

Please feel free to call my cell at…if you would like to discuss the material. I would be happy to support your work and review your progress.

Doug (Nelson)

APPENDIX B: CASE STUDY INTERVIEW FORM

Contact Center Interview Form

Participant Name: _____ Date: _____

Role (circle one): Manager Agent Support Staff

Demographics and Job Duties

1. How long have you been with the organization in your current role?

2. What previous background and experiences do you bring to this particular position?

3. What do you see as your primary role and responsibility in this position?

4. Describe a typical workday.

Contact Center Environment

5. Describe the culture here. (Culture is defined as a set of attitudes, values, assumptions, and traditions that directly shape an environment).

6. Tell me about the kind of leadership support that you receive in your position from your manager and/or from the organization.

7. What are the top three issues that are impacting your work environment today?

8. What knowledge, information, and/or tools do you need to be successful in your job and how do you define success?

9. What knowledge, information, and/or tools do others in your department need to be successful in their job here and how do you define success for those individuals?

10. Tell me about how your performance is measured or monitored.

11. Tell me what you would need from the people, tools, and/or knowledge available to you in this job to perform better.

Knowledge Access and Knowledge Need

12. What information do you rely on during a normal working day? (Nelson, 2007)

13. What is the source of information and how do you access it? (Nelson, 2007)

14. If you have questions, where do you go for answers? (Nelson, 2007)

15. Who regularly asks you questions? What types of questions are asked? (Nelson, 2007)

16. Who do you interact with most frequently (i.e., what individuals or departments) and for what reasons? (Nelson, 2007)

17. What type of knowledge do you find or would you find valuable in helping meet your department's mission and objective (i.e., what would make your job easier)? (Nelson, 2007)

18. What is the most important type of knowledge, information, or data the organization could provide that would give you the greatest benefit overall on a day-to-day basis? (Nelson, 2007)

19. What do you view as the most significant challenge to obtaining and managing the knowledge you need to accomplish your assigned duties?

Knowledge Loss

20. What amount or percentage of your time do you spend trying to find knowledge so you can perform a routine or structured task? (Nelson, 2007)

21. What amount or percentage of your time do you spend finding knowledge for others in your work environment? (Nelson, 2007)

22. Tell me about a time when you weren't sure how to complete a task or answer a call. What happened?

23. Tell me about a time where you forgot how to do something on the job. What was it and what did you do?

24. How do you share what you know with other coworkers? For example, if you learn something new while helping a customer, how do you let other coworkers know so that they can help a customer in the same situation?

25. How is your performance measured on your ability to answer customer questions correctly and completely? How do you ensure that the knowledge you have is current?

26. How do the people, processes, and tools that you use ensure that you have the knowledge that you need to do your job?

27. Describe a situation where the answer to a customer question may have changed because new information was known about the problem. How did you remember this new information? How do you forget the old information?

28. How fast do you feel the answers to customer questions change? How do you handle these changes?

29. Tell me about the administrative aspects of your position as far as collecting customer information or recording the specifics of a call.

30. How do you know which know administrative processes to follow in your job? What happens if the processes change? How do you know?

31. Describe any other examples that you feel are related to forgetting information on the job or not having the information that you need to answer questions and perform well.

APPENDIX C: ONSITE OBSERVATION FORM

Contact Center Observation Form

Date: _____

Nature of the Call (Caller Question(s)):

Observation of how Agent is Using Desktop Knowledge Resources:
_are scripts being accessed
_is agent looking at previous call history or customer profile to assist with call
_is agent using online system to provide responses and in what way specifically
_is agent able to resolve the initial call and what observations can be made

Observation of how Agent is using Personnel Knowledge Resources:
_is agent asking another agent for assistance
_does agent need to transfer issue to another agent and why
_does agent have to return caller's call at later time

Observation of Customer Service Queues used by Agent:
_is caller placed on hold or mute while agent researches the question(s)
_is agent describing steps to resolution to caller while researching
_is agent using appropriate greeting and closing with caller

Observation of Affective Queues by Caller:
_based on caller's affective queues, does the agent seem to be assisting the caller in resolving the issue
_is the caller showing signs of satisfaction or frustration
_what other affective queues are being used by the caller that might pinpoint how call is going

Observation of After Call Work by Agent:
_is agent entering notes into the desktop knowledge system and what is the level of detail
_is agent describing call to another agent because of information learned or exchanged with caller and/or other agents
_is agent capturing any new information for inclusion into a knowledge database

APPENDIX D: TRANSCRIPTION EXAMPLE

Dissertation Interview
Date: January 2009
Interviewer (I)
Participant (P)

I: Ok it's January 15th and I'm here with [participant] who's a Product Support Specialist. We have a signed consent form on file so we're going to go ahead and start the interview. Tell me how long you've been with the organization in your current role?

P: About [number] years.

I: Ok and tell me what background and experience do you bring to this particular position?

P: I was in [background].

I: Ok. What do you see as your primary role and responsibility in this position?

P: First of all, taking care of customers.

I: Ok.

P: And helping with any needs they have. Documenting everything for our company's purposes and I guess answering all the questions as much as possible.

I: Ok.

P: If I can't answer them then I send them on to someone else that can.

I: Ok. Describe a typical workday. And I know in the world today there's not necessarily a typical workday.

P: (Laughs) Sure, sure from like when I get here?

I: Yeah.

P: Ok.

I: Just walk me through a day.

P: I get in. I log in. I open up all the programs that I need for the day and get them all ready. I look to make sure that there is no information out there that is needed for the day, look at my e-mail or what have you.

I: Ok.

P: Whatever notifications that we get and then when the call comes in, which depends on how busy we are obviously, it could be right away or it could be like an hour or so.

I: Ok.

P: But when they call in I take a call, let them know who you are, ask what the issue is. Then obviously, you go through the calls coming up and answering any questions you can.

I: Ok.

P: Using our database of knowledge that we have and from there ending the call. Filling in, finishing it up and closing the ticket. Repeat that throughout the day (laughs).

I: Ok.

P: That's pretty much the simplified version.

I: So tell me, I know you guys are getting into your busy season, what's a busy day like? I mean how many calls is that potentially?

P: As busy day is generally around 50 calls.

I: Ok.

P: 50 you know and that can vary obviously. Even when it's busy, you have days where you only have 40 but then there's days when you might have 60 so you know.

I: Ok.

P: 50 is a good round number.

I: Ok what about like in the summer when you're not busy?

P: Maybe three or four calls a day if that. It really slows down quite a bit.

I: Ok and then what are you guys doing when it's like that?

P: I usually have either side projects or technically we're supposed to be doing like other things we need to work on otherwise we kind of surf the net sometimes but not that much though.

I: Ok do you guys ever get authorized time off? Like where you can, if you're slow you can take time off where you don't have to use vacation and its unpaid time off. Do they ever offer that?

P: No, no.

I: Do you think people would take advantage of it if they did?

P: I think so.

I: Ok. When you are on the calls of you know 50 calls, I mean is it really like you're at your desk and you get your two breaks and your lunch but otherwise you're on the phone?

P: Pretty much yeah. If you have to run to the restroom or something like that but or granted after so much you just need a little break so you can log out and go take a little walk or something. But otherwise, you are pretty much on the phone back-to-back.

I: Ok and what's the busy season? I mean are we in it right now?

P: Not quite. Usually the fall, basically the fall and spring. Like when school starts up they are very busy and then again in the spring. We're ramping up now and usually February and March is when it starts getting very busy.

I: Ok.

P: Back up in that fifty call range.

I: Ok.

P: Otherwise, like let's say it might be like a 20 to 25 calls roughly.

I: Ok. And then for the fall is it September – October? Or August – September? Does it depend?

P: They say August but usually it's September before it starts getting a little bit busier. So September – November that range.

I: Ok, ok. Tell me about the culture here.

P: Fun.

I: (Laughs) Well that was the quickest answer I've had. Let me tell you how I'm defining culture for the purposes of my research, I'm defining culture as a set of attitudes, values, assumptions, and traditions that shape an environment. So I'm going to write down that you said fun and you can talk about the culture of the group and or and or both.

P: A lot of cohesion here.

I: Ok.

P: Really, I've yet to see anyone who I really don't get along with at all.

I: Ok.

P: You know everyone gets along great with each other. Our group specifically is about 15 to 20 people and everyone seems to get along very well. There is a lot of camaraderie. I'm very happy working here.

I: Good.

P: It makes the day go by much quicker.

I: Ok. What about [organization]?

P: As a whole?

I: Yeah.

P: I like it.

I: Ok.

P: It's a good company to work for. You know anything from how they treat their employees, they reward their employees well, the benefits are great. It's you know, it's a good company in general to work for I believe and I think you know I think they are staying ahead of the game as far as the economy goes.

I: Ok.

P: As far as culture I think, I don't know if it's because of being in [this city] but it seems like it's a little more liberal.

I: Ok.

P: And you know but it's a very liberal environment. You can where (pause) was I going with that? I forgot where I was going (laughs).

I: That's fine. Tell me about the kind of leadership support that you receive in your position from your supervisor, manager or from the organization?

P: A lot of support.

I: Ok.

P: A huge amount of support from our manager. Basically, [she] is the type who does a lot of the you know, I cannot say enough about how great she is. She is a great person.

I: Ok.

P: But she also leads in a great way too. Gets things done and enables us to get our jobs done correctly and the supervisors, which is a step below her, they do a great job too. They let us know when things are happening and if we come to them with any issues they are really right on the ball about getting things taken care of too.

I: Ok.

P: I can't say enough good about them.

I: Ok and who are you reporting to now for your sup?

P: It would be [supervisor].

I: Ok. Is he traveling this week?

P: Yes, he's in [city].

I: Ok. What are the top three issues that you think are impacting your work environment today?

P: As in negative issues?

I: Well.

P: Or issues?

I: Just issues that are impacting the team.

P: I would say I don't know that this is really an issue but weather. It's just been causing a lot of people to either miss work or with children or what have you and it's not a problem yet because of the fact that it's not terribly busy yet. Boy I'm really struggling with this one, there's no real issues affecting our team per say. Not in a negative way. You know I think in general the economy has everyone a little on edge.

I: Ok.

P: But that being said, I'm sorry I don't know of any other issues.

I: That's ok, there's no right or wrong answers.

P: I know that (laughs).

I: If we had a week like this in February let's say the last week of February and we had this kind of a week what would you guys do? Do you just work through it with the call volumes?

P: Yep, that's really all you can do. You just work through it and you know I more than some others out there, I think I try to have a positive attitude about it and say hey you know we are going to be getting calls either way so you know it's going to be back-to-back. It's just, because a lot of times we have other I guess outlying areas like for instance, [satellite location] and so we have people there, [satellite location], what happens is those people generally pick up a little bit more of the volume than they would during the time when there's less people here for instance.

I: Ok.

P: Or for that matter I think people generally, in general I think with our group everyone really tries their best to be here.

I: Ok.

P: We don't have any shirkers by any means.

I: Ok.

P: Everyone seems to really like coming to work and they do their job good and if they can be here at all they are usually here.

I: Ok. What knowledge information or tools do you need to be successful in your job here and how do you define success?

P: As far as tools and knowledge that we would use we have our Kaidara, which basically it's a FAQ. It has all of our knowledge base for all of our states that we cover and the programs for each state and that's very vital because anytime that the program team has anything coming up they let us know about any issues going on for each state and they post it out there and let us know so that way when people call in about those issues then we can go ahead and just let them know right away. Otherwise other tools I guess you could say, our supervisors do a good job on getting us trained on anything new that's coming out and the program team does as well and that is a huge help as well too. As far as how I define success, I don't know maybe it's a little bit different than most people but I just figure if you are happy doing what you are doing and you know that to me is success.

I: Ok.

P: You know if you can go home everyday not hating your job and if you can make enough money to survive because the way that I look at it if you are happy then you are successful in your own mind. You know everyone has different levels of success. Some people can make $9 successful. Others would say just living is successful. I'm more towards that side.

I: Ok. What about other people? So same question but thinking about others, what knowledge information or tools do others in your department need to be successful in their job and how do you define success for those individuals? So I know that there is the knowledge team, you know there's the support services team, there's the management team, tell me what they need to do their jobs and then how do you define success for those people?

P: Well a lot of our knowledge a lot of times comes from the customers in a sense that sometimes we don't realize our issues until the customer lets us know that there's an issue.

I: Ok, ok.

P: So granted obviously there are times when you know there's something coming up that we may know but we don't realize how bad it is but many times when there is an issue that people are calling in about they a lot of times catch us off guard but we don't realize, we just don't have the capability to realize that there is something going on until it happens.

I: Ok.

P: As far as success for other people I don't know how to answer that question. I think everyone in general here kind of has the same feeling as far as success its very, it's not an easy term to define I guess for me at least.

I: Ok.

P: I think other people may see success as making good in your job and making good money but again it's a very open question to me at least.

I: Ok.

P: I know that's probably not the answer you were looking for.

I: No right or wrong answers. Tell me about how your performance is measured or monitored?

P: Basically there's several ways, first off the number of calls we take. If someone is only taking 10 calls and everyone else is taking 50 then there's a problem there.

I: Ok.

P: Also the how long you are on a call, we generally have a mark of four minutes for the call and then two minutes of after call work.

I: Ok.

P: And you're, you are judged based on that when it comes to reviews and what have you. Also obviously making sure you come to work, your availability for work.

I: Ok.

P: I guess the obvious one is making sure you're not doing something you shouldn't be doing at work. Like if you are doing something illegal you could be judged on that (laughs).

I: Ok.

P: But they are really, I don't want to say easy going because that's not the right word but they're very open to how you do your job I guess. That might not be the right words but.

I: Ok.

P: You know not lax but it's they I just can't find the right words.

I: Ok. So they are very open to how you do your job.

P: Yes they work with people and they work with how you do, I pointed out we have a standard but as long as you hit those standards you are doing ok.

I: Ok. And how often are you getting feedback on performance?

P: As long as there's no issues with how you are doing your job you get like an annual review. If there are issue then you get more. There was a, when I first started there was a point where every two weeks I had a meeting with somebody because I was not meeting [metrics] but that being said that ended and it kind of doesn't get talked about. They don't hold anything against you. They do a really good job of once they see you are back on track then they just leave you alone.

I: Ok. Tell me what you need from people, tools, or knowledge available to you in this job to perform better?

P: I think we get pretty much everything we need. Now sometimes it would be nice if we could get, if the, because we, I'm not sure if you are familiar with it but there's us and then there's the program team that works with the state and so they go between us and the customers.

I: Ok.

P: In some sense as far as what needs to be done for each state and what rules they have for each state, sometimes we don't get the information we need to. Like if there's an issue going on for instance if there's a training in that state that is going to be upcoming sometimes we don't get that information right away. It would be helpful to get that quicker.

I: Ok.

P: Or more often.

I: Ok.

P: But otherwise they do a really good job of trying. We pretty much have everything we need.

I: Ok. Tell me what information you rely on during a normal working day.

P: A few things, first of all obviously the knowledge base first and foremost.

I: Ok.

P: A lot of times the people around us like your coworkers are a wealth of knowledge. Someone may just have had a call about the exact same thing that you did and we talk over the wall and they say contact the program team. Our management does a really good

job if there is anything up and coming they let us know as much as they know about things.

I: Ok.

P: Yeah and a lot of times it's that and even on the internet. Many times I have gone out to search for information on the internet about a certain school and trying to find certain information or what have you.

I: Ok. So the source of the information and how you access it, going back to the last question, you are obviously using Kaidara.

P: Sure, Kaidara, like I said just your coworkers right around you, sometimes we get on IM [instant message] to like talk back and forth. Like if you are in the middle of a call sometimes we IM and say hey are you talking to so and so state and this just happened and otherwise again the internet again is a good source.

I: Ok. Let me ask you a question.

P: Sure.

I: When you are talking about coworkers is that really just the coworkers here? How much are you interfacing, virtually interfacing with the agents in [satellite location]?

P: Hardly ever.

I: Ok.

P: [Satellite location] maybe a little bit more because they take some of the same calls but unless there's a major issue or some sort of issue, the other ones we really don't talk to them a whole lot.

I: Ok.

P: E-mail we use here and there too. I should point that out, I forgot about that. E-mail is the tool we also use because sometimes things get noted, they sometimes will post things via e-mail issues that are happening they know of that are upcoming.

I: Ok.

P: There's going to be a training today on such and such you should be prepared for that.

I: Ok.

P: Otherwise as far as we don't talk to the others a whole lot.

I: Ok. If you have questions where do you go for answers?

P: First it's usually the coworkers right around me.

I: Ok.

P: Depending on the type of question but otherwise managers.

I: Ok.

P: Which would be either [supervisor] and [supervisor] or [manager]. With [manager's] office being five feet away from me I usually just pop my head in there real quick and she's very easy to, she's very good at answering a question for you and if she doesn't know she'll find out for you.

I: Ok. Who regularly asks you questions and what type of questions are asked?

P: As far as you mean the calls I get?

I: It could be calls or (pause)

P: Well generally as far as when people call in it's usually district coordinators, principals, or teachers, superintendents, people from the districts. And you want to know what types of questions?

I: What types of questions, yes.

P: It could be anything from looking for the dates of like when there's a certain window for enrolment to when are we getting our materials to tactical questions like how do they set something up.

I: Ok.

P: Or you know people complaining. We get that too. We get the gambit of people calling in.

I: What do you do with complaints?

P: Be nice (laughs).

I: Ok.

P: You know you have to understand that they're, a lot of times when they are calling to complain they usually have reasons so you just try to find the root issue but generally what has people complaining is generally something that is passed on to the program team and that's their kind of their responsibility to take it on and granted I have listened to a lot of people rant and rave at me and you just take it. It's just your job but you know it's never gotten to the point where anyone is very angry and swearing and things like that. That may have happened once or twice but again you just have to work with people and try calming them down. That's again, that's where my experience comes into play is dealing with people. I can usually talk them down, usually (laughs).

I: Ok. Who do you interact with most frequently? That is what individuals and departments and for what reasons?

P: It would probably be besides coworkers and managers, and again are you speaking in regards of customers or are you speaking at [organization]?

I: At [organization].

P: At [organization] it would probably be depending, program team members depending on which effort and whoever has those windows going as far as their programs. So for instance [state] may have their busy season might be right now and we talk to them a lot because if the knowledge isn't out there then we talk to them about things. We get a lot of calls for individual type things and people call for these odd things that there wouldn't be an article for so you have to call the program team about that.

I: Ok.

P: And they are usually, the teams are really good about that.

I: Ok.

P: Some are not but.

I: When a team is not good what does that mean? Or what does good mean?

P: Good means that they take the calls first of all.

I: Ok.

P: Because there are some program teams that are kind of known for not really responding to our calls a lot.

I: Ok.

P: Basically what we have to do then is just put a service ticket out for that caller or for the customer that is calling in and we have to fill the ticket out for the program team for that caller.

I: Ok.

P: Many callers are fine with that but some are not. They want the issue taken care of right now and sometimes those program team members just don't want to deal with it.

I: Ok.

P: Again from our aspect that's what it seems like. I don't know if that's actually the case. For the most part that's pretty rare for that to happen but there are some out there that are known to be like that.

I: Ok. When something is active, like something is going on for a state that is active, how frequently are you interacting with the program team? You know I've heard that there [are] escalation paths so if you can't find it in the knowledge base you would go to the program team. I mean is that like on a day when you are taking 50 calls how many times are you interacting with the program team?

P: We may have 15 to 20 possibly.

I: Ok.

P: And again it depends, a lot of it depends on the kinds of questions you are getting. If you are getting a lot of the same questions over and over you may only have to talk to them once or twice and you know if you are getting the same question after that you can answer it yourself. You don't have to worry about going back to the program team. Other times when you have those really odd days where you know people are calling about little one item things that you probably aren't going to hear about again and there is not reason to have a ticket out there, or I mean sorry no reason to have an article out there. So on those days you would talk to them a little bit more. But like I said most of them don't seem to mind at all or if they do they don't show it.

I: Ok. How do you decide if you feel like something needs to be added to the knowledge database?

P: Basically if there is, if this is something that we've had more than a few calls about.

I: Ok.

P: Like lets say, and a lot of it happens with talking to your coworkers you know like Joe Shmoe next to me might say I've had three or four calls about that same issue you are

dealing with right now and I would say yeah I've actually had three or four myself and then somebody else is saying yeah we need a ticket out here on that. So usually if it hasn't been done already then you put a ticket in or you just put a little note out there basically saying we need knowledge about this issue.

I: Ok.

P: And then someone from the knowledge base team will take a look at it and get the answer for it and get the KB [knowledge base] out for it right away.

I: Ok got it. What type of knowledge do you find or would you find valuable in helping meet your department's mission and objective. To simplify the question, what would make your job easier?

P: Wow, you know the thing is they do a really good job.

I: Ok.

P: Honestly, they really do.

I: Ok.

P: A lot of times when the issues come it it's usually because of things that they really can't do anything about.

I: Ok.

P: Or if it just came out of nowhere anyway so no one would know they wouldn't have a chance to get it. Granted there are times, there was times in the past not so much now where information, they would have, the program team would have to approve articles to go out and where things are either not getting approved in time or they sit on it for a little while or our knowledge team would just not get to it when we would be busy or what have you but really there's no issues with that right now.

I: Ok. So this is getting a little bit more specific about knowledge, what is the most important type of knowledge information or data that the organization could provide that would give you the greatest benefit overall on a day-to-day basis?

P: Updates, anything that is currently happening just to keep us updated on that right away. As soon as they know things happen, get it out there.

I: Ok.

P: As far as in general terms, when windows are opening and closing as far as testing windows or enrollment windows or whatever happens to be happening have it posted out there either in an article or on the, one of the websites that we use quite frequently is the [website]. What it is basically is just a, it's a company site and there is a lot of information that goes on that site and it would be helpful sometimes if they would put the dates to those updates listed on the site because they are supposed to be on there but sometimes those dates need an update if that makes any sense.

I: It does.

P: Ok.

I: What do you view as the most significant challenge to obtaining and managing the knowledge you need to accomplish your duties?

P: Challenge challenge I don't know of anything. As far as challenges go sometimes it can be a little frustrating when people are asking questions that are not let's say doesn't fit into any article and you can't get a hold of the program team and so you are kind of left out there just to kind of and that's where you kind of, it makes you a little antsy because you just at that point just leave it out there to the program team and they'll respond back to that once they find that. But a lot of times it's a challenge when people ask you know I don't want to say out of the box questions but sometimes we get questions that are just you know why are you asking that kind of thing (laughs). We get a lot more than I'd like to say.

I: Ok.

P: And that's kind of a challenge because you know the customer they want an answer like right now and you, there's no way you can do it because it's nothing you have ever heard before.

I: Ok.

P: And that's by no means the fault of anyone on the program team or what have you but it's just when they ask these questions they are oddball questions. You know not that there is nothing wrong with the customer per say it's just they ask questions that there is just no point (laughs).

I: Ok.

P: I mean there's a point to them but obviously.

I: Ok. What amount or percentage of your time do you spend trying to find knowledge so you can perform a routine or structured task?

P: Out of, and I'll base this on a typical call. So like out of a four-minute call with two minutes after call work I would say probably a minute and a half out of that time.

I: Ok.

P: You know that being said during slow times a lot of times I'll go through the Kaidara and just to kind of review those for updates. So if we notice there is a, like for instance if we know that we have [state] is having some testing coming up we may go out there a little ahead of time just to see what's out there already for articles.

I: Ok.

P: Just to see you know, we generally have a feel for, a lot of times we get the same calls over and over about certain issues and we just like to know ahead of time like if we know what the answers or what the questions are going to be a lot of times we go look in the knowledge articles and if we see that we make sure that we know ahead of time we're going to be asked this and so this is what we are going to be saying to people.

I: Ok.

P: So we just take that time and that way we know where to go look right away as opposed to sitting there looking for five minutes looking for an article.

I: Sure.

P: But that's generally what we would do.

I: Ok. What amount or percentage of your time do you spend finding knowledge for others in your department?

P: I would say 10%.

I: Ok.

P: You know just like I said we all help each other out at different time and that being said there is a lot of times where we may already know it as opposed to having to go look around for it and we just say oh it's so and so or this is the answer right away. And you know that happens every so often.

I: Ok.

P: If you were to include that part then I would say probably up to 20%.

I: Ok. If you, are these generally conversations going on after the call? Like do you ever have a customer on hold and you are like hey have you ever heard about this?

P: Yep.

I: And then it sounds like from what I understand that you have to mark in the service center ticket that you used you know certain knowledge from the database. So how does that work if your co-worker gives you an answer?

P: A lot of times I will either put in you know after speaking with or I spoke with so and so you know the service support team.

I: So you put it in the ticket.

P: Yep and I just note the information out there and that being said you know if it's something that is coming from a co-worker it's usually they point you to where oh that's an article that's out here and they give you the location or what have you.

I: Ok.

P: And then you find out where that was and you add that KB to the ticket. Otherwise they say it may be hey you need to contact the program team about that issue.

I: Ok.

P: And then you contact them. But yeah that's [it].

I: Ok. Tell me about a time when you weren't sure how to complete a task or answer a call, what happened?

P: Well I just had that happen actually. Basically a lot of times what will happen again when you get the call like where it's just some off the wall thing, like every once in a while I'll get a call. On the one hand usually I'd say about 95% of the time someone is available to help you with it or you just say hey, a lot of times I'll just turn around and say hey what do we do with so and so and it's really you know that's really vague right there. But like for instance, how do I set up, someone is calling and they want to know how to set up a test for a program that we have and they usually will say I'll take the call or just go to this article and I'll show you where it is at. That's most of the time what will happen.

I: Ok. Tell me about a time where you forgot how to do something on the job. What was it and what did you do?

P: You know and I probably shouldn't say this but almost every week I always forget my timesheet. I don't know that that's really something that really matters but actual work related.

I: What do you have to do in the situation with the pay system?

P: We are supposed to call the helpdesk, which is not fun. It's in [country] and they don't understand what we are saying. You are not supposed to have them out but I do because I forget it every week.

I: Ok.

P: But otherwise as far as, I'm trying to get something I actually had an issue a couple of days ago where I was trying to transfer and for some reason I could not transfer. It's not a big deal but I just had to stop and think ok what do I do. It's basically I needed to find the number that they need to call in and it's an odd situation because you basically tell the person it's like you know I can't transfer you to a person that is within my company and you know many people get angry about that because they have to hang up and redial. It sounds like simple thing but people get upset about that.

I: Right. How do you share what you know with other coworkers? For example if you learn something new while helping a customer how do you let other coworkers know so they can help a customer in the same situation?

P: Depending on what it would be many times e-mail.

I: Ok.

P: We would just send an e-mail out to all the people in our office here to let them know. Otherwise it would just be saying hey did you guys know about this.

I: Ok, verbally?

P: Yeah verbally or like I said usually verbally or e-mail are the two ways.

I: Ok.

P: Or submitting an article in Kaidara but usually for me that's the last step because it's either already out there or it's going to be put out by the program team.

I: Ok. How, we talked about performance a little bit earlier but more specifically now how is your performance measured on your ability to answer customer questions correctly and completely.

P: They track first call closure. What that is is basically how often you are able to actually close a call out as opposed to escalating a ticket to someone else.

I: Ok.

P: And you are graded on that exactly what the other people say I don't know, I've never had an issue with it. I'm usually pretty good about getting things resolved right off the bat.

I: Ok.

P: But again those things do happen and it's a minor issue I would say as far as from what I understand. I'm sure it's more important to the higher ups but its not going to affect us a whole lot per say.

I: Ok. How do you ensure that the knowledge you have is current?

P: Wow I don't know a lot of times we generally have a good feel for what's supposed to be out there. Generally within the Kaidara articles they should have like a reference to which testing it's for. Obviously we are dealing with spring 09 right now and if you are seeing an article and it says February 08.

I: Right.

P: I should say all the articles have the date that they were updated in there. So I mean if there is something in there that hasn't been touched in a year and a half it's probably not a good article in which case you would look for something else that would be out there. And it's very possible there may be another article out there that is similar. That is one issue I guess I could say is that sometimes they don't get rid of old stuff.

I: Ok who is they?

P: The knowledge base team. There is a lot of information in there from like all the way back to like spring of 08 that is still out there that we don't need to have out there but it just clutters it all up. Again not a big deal because you just don't click on those things but yeah occasionally you find articles out there where you say why would I be looking at that. Occasionally also you will see that there may be an article that is a year old but it may be the only thing out there and that's when you go to the program team and say hey this seems a little old is that still the case? And then we go that route.

I: Is it usually the case that there is information from like a year ago that would still be applicable?

P: Sometimes.

I: Ok.

P: Not very often but sometimes that is. Like if it's an ongoing issue, I'm trying to think of an example off the top of my head like maybe the process for doing something like with [state] and how they log in. It's the same way they log in for the last 3 or 4 years. So the article is a little old but. Even still sometimes they will update them anyway but I have seen articles out there that are still valid articles but they are from 07.

I: Ok, ok. Just a few more questions.

P: Sure.

I: How do people, processes, or technology that you use ensure that you have the knowledge that you need to do your job?

P: There is and I hate to say this but we have a knowledge base team who that is basically their job to ensure that all the knowledge they get from each of the program teams from the states is out there for us and available.

I: Ok.

P: Also our managers they do a really good job for us too. If there is an upcoming window for instance for like a, like [state] for example their testing is coming up soon so what they'll do is they will schedule a training with the program team and make sure that we are updated and make sure we are aware of any upcoming issues or things that change from last year and note it that way. That usually kind of covers it all right there.

I: Ok. Describe a situation where the answer to a customer question may have changed because new information was known about the problem. How do you remember the new information and how do you forget the old information?

P: Well you know I'm not saying this is the right way but a lot of times I do it in my head but what you are supposed to do, but what you should do is if there is an article about something and you say hey this is all wrong then what you should do is get feedback on that article which would go to the knowledge base team. They would do the research on it and talk to the program team and say hey is this not valid anymore, what is the new answer.

I: Ok.

P: And then they would repost the new information in the article.

I: Ok.

P: A lot of times if there are some people that I deal with on a regular basis like certain states like [state] we've been dealing with [state] the last few months constantly and you get some of the states that are calling in day after day after day and a lot of times they will ask the same questions so you get kind of used to knowing and if something has changed from like if they asked a question about enrollment for instance back a few months ago and I know the answer has changed from the program team I would just basically say ok that's not what it is anymore by repetition basically because I have been giving out the same answer over and over again and after that I kind of tend to forget the old information. Like I said not the best way to do it but it works for me.

I: Ok. How fast do you feel that the answers to customer questions change and how do you handle those changes?

P: Changing as far as they call in with a question and the information I have is not correct is that what you?

I: Well just you guys have this knowledge base so or you have this body of knowledge how often is that information changing?

P: At the very least yearly. Many times I've seen it where day-to-day it has changed.

I: Ok.

P: Not very often but usually year to year information changes like as a whole and they print out new articles for each new session, testing session.

I: Ok.

P: Because again like I said you know there are things that change from year to year. Whether the state they determine they want things done differently and so we redo everything again and that comes from the program team or the knowledge base team.

I: Ok.

P: It's usually working with the right team so.

I: Ok. Tell me about the administrative aspects of your position as far as collecting customer information or reporting the specifics of a call?

P: Basically I would say the first thing we do is ask for their name.

I: Ok.

P: If we, generally what we do is we put the first few letters of each first and last in there.

I: Ok.

P: And we have a little button, basically a find button and if their information does not pop up already we ask for their telephone number so we can get back to them in case we get disconnected.

I: Ok.

P: The district and school, well district at least and sometimes the school depending on where they are calling.

I: Ok.

P: And then an e-mail address.

I: Ok.

P: Those are usually the things we try getting from them and mainly its just the reason being is that way we can you know if we need to contact them again or if we get disconnected then we can get right back with them. We don't have to say oh this person called and they are out there, that way we can contact them back right away. Or for that matter if we needed to follow up like if we put a service ticket out for the customer we need information to get back to them.

I: Ok, ok. How do you know if the administrative, wait let me ask this again. How do you know which, how do you know which administrative processes to follow in your job? What happens if the processes change?

P: Generally first and foremost we get a memo, either an e-mail or a memo or our management will come out to us to let us know. But otherwise usually by e-mail just to say hey here's a heads up this has changed we don't do this anymore we do this instead.

I: Ok. Describe any other examples that you feel are related to forgetting information on the job or not having the information that you need to answer questions and perform well.

P: Well a lot of times you know and again there are some states that do better than others as far as getting the articles out there and by that for example I'll use [state] as an example because they do a very good job of really all the information that is out there you know that they have it's out there in an article. And again the only reason we ever need to contact them is the oddball questions.

I: Ok.

P: It does not have to do with any of the categories. Where we have other states where you know there's hardly any knowledge out there and they don't really do a very good job of getting articles out there.

I: Ok.

P: Whether it be they have no idea what questions will be coming in or if they just you know some programs they just don't have much information that they get from the state.

I: Ok so do you think they are dependent on the state sometimes for their information?

P: Yes, yes they are.

I: Ok.

P: And you know depending on the state and also it appears sometimes from us, we give them information. Like for instance just yesterday another example, [state] was taking training that was happening and the link that people were using to get to the training was not working.

I: Ok.

P: And we called the program team and say hey this link is not working and they said oh, ok. And then what they did was in about five minutes they had a work around and a new link for us to access that.

I: Ok.

P: And they sent an e-mail out plus with the e-mail they also sent an IM out to the different like [satellite location], those satellite sites so that way everyone was aware of it.

I: Ok. What do you think can be done for some of the states that are just kind of known for not providing the information or if there's just more of a struggle whether it's that they don't know what questions are going to come in or they don't have information from their state? Is there a solution?

P: Well at least as far as we do I mean it's as much information that we can glean from the customer and we go with that. If we find more information but more often than not we just open up tickets like if there's an issue out there and basically with the volume of tickets they are get eventually they realize that this is an issue that they have to find something out about.

I: Ok.

P: That seems to be the solution. They take care of the issues.

I: Ok, ok.

P: Or submitting feedback about an issue as well. You know if they are seeing you know 20 people suddenly asking about this certain thing then they'll go to the program team and say hey we didn't know about this.

I: And is they the?

P: I'm sorry the KM [knowledge management] team, I'm sorry.

I: Ok. Ok so submitting feedback the KM team goes to the program team.

P: Correct.

I: Ok anything else?

P: Nope I think that's it. Good luck.

I: Thank you.

APPENDIX E: OBSERVATION FORM EXAMPLE

Contact Center Observation Form

Date: ____*January 22, 2009*_____

Nature of the Call (Caller Question(s)):

Caller wanting to order practice tests.

Observation of how Agent is Using Desktop Knowledge Resources:
_are scripts being accessed
_is agent looking at previous call history or customer profile to assist with call
_is agent using online system to provide responses and in what way specifically
_is agent able to resolve the initial call and what observations can be made

Agent is not looking up previous call history, but is looking for program team contact information on the central support website. No knowledge base articles accessed.

Observation of how Agent is using Personnel Knowledge Resources:
_is agent asking another agent for assistance
_does agent need to transfer issue to another agent and why
_does agent have to return caller's call at later time

Program team instructing agent to specific website; however, agent does not have access to website.

Observation of Customer Service Queues used by Agent:
_is caller placed on hold or mute while agent researches the question(s)
_is agent describing steps to resolution to caller while researching
_is agent using appropriate greeting and closing with caller

Standard greeting and closing used.

> *Caller was put on hold while agent conferred with program team and again when the agent tried to re-contact the program team.*
>
> *The enrollment order period is Spring 2009. Agent confirmed that it was Spring 2009 and the caller questioned this. The agent was frustrated and noted to the researcher while the caller was on hold that no training had been provided on this and agent did not know why the program team would not take the call. When the agent contacted the program team, the agent expected the program team member to take the call but that did not happen. Instead, the program team referred the agent to the support website, which the agent could not access because no logon credentials had been provided.*
>
> *The agent attempted again to call the program team. Two attempts were made with no response. When unable to reach the program team, the agent instructed the caller to send an e-mail to the program team to order the practice tests.*

Observation of Affective Queues by Caller:
_based on caller's affective queues, does the agent seem to be assisting the caller in resolving the issue
_is the caller showing signs of satisfaction or frustration
_what other affective queues are being used by the caller that might pinpoint how call is going

> *Caller was sighing saying "Oh, I've got to go through all that mess?" The caller did not want to have to go to the website to order the practice tests.*

Observation of After Call Work by Agent:
_is agent entering notes into the desktop knowledge system and what is the level of detail
_is agent describing call to another agent because of information learned or exchanged with caller and/or other agents
_is agent capturing any new information for inclusion into a knowledge database

> *The agent was going to alert supervisor and manager to the fact that the program team did not take the call.*

APPENDIX F: PROVIDED PERFORMANCE METRIC DATA

2008	% Answered in 20 Sec or Less	After Call Work	Avg Handle Time	First Call Closure	Attrition
Mar	42	2:31	7:10	69%	0%
Apr	41	2:53	8:00	72%	0%
May	62	2:37	7:39	73%	3%

	Attrition (RFT)
2007	0%
2008	6%

Top Call Subjects

Subject	Tickets (Year)
SECURITY	25330
GETTING MATERIALS	7777
RETURNING MATERIALS	6416
LOST PASSWORD	4171
RESET PASSWORD	4059

APPENDIX G: QUALITATIVE CODING CATEGORICAL SUMMARY

Category	Description	Summary (256 Total Comments Coded)
Primary Category 1: Culture	Events or circumstances that shaped attitudes, values, assumptions and traditions	93
Subcategories:		
Contact center environment	Event or circumstance primarily driven by the nature of the work; of specifically doing business as an inbound contact center	29
Economic conditions	Event or circumstance primarily driven by the current economy (e.g., reduction in state education budgets)	9
Corporate customs	Event or circumstance primarily driven by the corporation (e.g., new timekeeping system, new project implementation)	19
Leadership support	Event or circumstance primarily driven by managerial or supervisor support in the execution of tasks	16
Organizational change	Event or circumstance primarily driven by reorganization of personnel	20

table continues

Category	Description	Summary (256 Total Comments Coded)
Primary Category 2: Knowledge	Evidence of knowledge acquisition, use, transfer, and loss	102
Subcategories:		
Avoiding bad habits	Adherence to or deviation from standard operating administrative procedure	4
Failure to capture	Evidence of standard or routine knowledge that was readily available to the participants, but not transferred	11
Memory decay	Events that occurred related to forgetfulness, whether accidental or purposeful	37
Training	Formal and informal events used to assist staff with acquiring knowledge	27
Transfer	Actions where participants explicitly engaged in exchanging knowledge	14
Unlearning	Actions that exhibited non-compliance with provided operating procedures or directions or exhibited resistance to new knowledge	9

table continues

Category	Description	Summary (256 Total Comments Coded)
Primary Category 3: Performance	Measures of success, evaluation procedures, standards, supporting technology, and customer satisfaction	61
Subcategories:		
Customer satisfaction	Evidence of customer satisfaction whether anecdotal or data driven	4
Evaluation	Evidence of individual and team performance ratings and feedback	29
Standards	Evidence of performance standards and expectations	8
Success	Definitions of success for individuals, team, and company	15
Technology	Use of technology to foster performance	5

APPENDIX H: ONSITE OBSERVATION DATA

Total Calls Observed: 63
Total Hours of Observation: 16

Type of Call	Description	Frequency
Cold transfer to other department	Agent was unable to resolve issue because customer needed to speak with a different department; those calls were transferred to the appropriate department	7
First call resolution	Agent was able to resolve the call without program team involvement	23
First call resolution with program team contact	Agent was able to resolve the call with program team involvement	7
First call resolution where customer resolved the issue	The customer resolved own issue before agent could provide resolution	2
Program team escalation	Agent was not able to resolve the call and the call was escalated to the program team	18
Warm transfer to program team	Agent was not able to resolve the call and the call was directly transferred to a member of the program team	6

-32 (51%) first call resolution although 7 of the 32 (21%) involved contact with the program team and 2 of the 32 (6%) were resolved by the customer
-24 (38%) calls escalated or transferred to program team
-7 (11%) calls transferred to other departments

Observed Call Topic	Frequency
Administrative	30 (48%)
Materials	16 (25%)
Misdirected	2 (3%)
Technical Support	8 (13%)
Training	7 (11%)

CURRICULUM VITAE

ELIZABETH M. HERMAN

SENIOR MANAGER & MANAGING DIRECTOR

Highly accomplished Business Leader with 14+ years of demonstrated achievements in delivering superior management and operations improvements for multimillion-dollar companies. Dedicated professional known for pioneering effective communications and presentation strategies for expanding business relationships, fueling productivity, and increasing profits. Creative problem solver, big-picture thinker, instructor, team mentor and communicator with a proven ability to develop cutting-edge methods that elevate team performance, generate revenue, and penetrate new markets.

Strategic Communications • Knowledge Management • Non-Clinical Healthcare
Executive Presentations • Relationship Building • Vendor Management & Selection
Team Leadership, Mentoring & Training • Revenue Growth • Client Relations
Cost Control • New Business Development • Website Design • Program Management
Policy Development • Environmental Sustainability Initiatives

---

PROFESSIONAL EXPERIENCE

VANGENT, INC., • 2004 to Present
Leading global provider of information management business processes.

Deputy Director, Medicare Policy and Health Strategy
Provide expert leadership for high value team of policy experts, customer service representatives, program management professionals, and executive staff. Deliver thorough responses and reviews of client requests while triaging and assigning tasks to team. Guarantee timeliness of internal and external deliverables while resolving personnel/staffing issues. Coordinate financial processes to ensure meeting of budget projections. Deliver information/service to customers and review metrics to monitor contractual compliance. Direct program management and interface with team on healthcare policy/program impact.

Revenue, Business & Cost Improvements:

- Served as valued member of multiple Congressional Oversight meetings with congressional staffers using policy expertise.
- Generated $220M in annual revenue as key member of team capturing Beneficiary Contact Center Contract.
- Reduced costs $200K in just 6 months with $500K+ annual projected cost decrease by leading “Go Green” initiative slashing amount of paper materials used.

Operational Improvements:

- Led implementation of Stellent Content Management System and SumTotal Learning Management System to 3K+ users spanning multiple locations.
- Heightened quality from 90% to 94% by initiating innovative targeting training program for customer service representatives.
- Improved customer communications by developing process improvement initiative to standardize responses.
- Maintained Levels 4 and 5 ratings on customer evaluations through multiple process and training improvements.

CONFIDENTIAL • 2002 to 2004
Largest comprehensive provider of educational assessment products, services and solutions.

Online Training Designer
Developed online training programs for personnel scoring State Assessment tests for kindergarten to twelfth grade students. Managed creation of programs from conception through development. Coordinated all program testing and deployment processes. Designed supplemental materials including welcome packet and installation/deployment instructions. Teamed with state assessment program managers for project scheduling, deployment and deadline management. Collaborated with software developers to guarantee program multi-platform functionality.

Specific Accomplishments:

- Selected as first dedicated online training designer in division history.
- Dramatically extended training program eLearning market reach by standardizing templates and processes for online training in just 6 months.
- Elevated quality of writing by program managers with implementation of content from subject matter experts.
- Conducted internal internet training programs spanning multiple locations by establishing WebEx vendor contract.

CAHABA GOVERNMENT BENEFIT ADMINISTRATORS • 1996 to 2002
Administer of Medicare health insurance for Centers for Medicare and Medicaid Services.

Medicare Education & Outreach Webmaster

- Successfully managed Medicare provider website for Regional Home Health and Hospice Intermediary business.
- Maximized website functionality, accessibility and user friendliness through complete redesign.

- Received official recognition from Blue Cross Blue Shield Association for development of Home Health Prospective Payment System Train-the-Trainer materials.
- Provided editorial services for members of the Education and Outreach team.

Early Career:
Technical Writer, Noel Levitz, 1995 to 1996.
Information Specialist, NCS, 1994 to 1995.

FORMAL EDUCATION

PhD, Knowledge Management
Walden University, Minneapolis, Minnesota

Master of Arts, English & Professional Communication
Iowa State University, Ames, Iowa

Bachelor of Arts with Honors, Journalism & Mass Communication
University of Iowa, Iowa City, Iowa

PROFESSIONAL AFFILIATIONS

Society for Technical Communications
ASTD