

**Assessment of Texas Public Utility Commission Knowledge Management
System: An Organizational Perspective**

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ABSTRACT

The field of knowledge management is only about ten years, yet, it has come to be one of the fastest growing and most popular management disciplines in the modern era. Knowledge management has been given many definitions, but for this research, the following definition formulated by Thomas Beckman has been adopted. He defines knowledge management as "the formulation of and access to experience, knowledge, and expertise that create new capabilities, enable superior performance, encourage innovation, and enhance customer value" (p.51). Since many public sector philosophies start out as private sector, the Texas Public Utility Commission (PUC) was an attractive government state agency, for which to study in terms of development and adoption of knowledge management ideas, practices, attitudes, values and characteristics. The Texas Public Utility Commission is, and has been, a leader in Texas State government for adopting knowledge management concepts and perspectives their organization. The Texas Public Utility Commission has been cited by Jay Liebowitz, a leading researcher in the area of knowledge management. Liebowitz (1999) references the PUC in chapter 16.1, "Knowledge Management in Government: Workflow Applications." In this chapter, Brenda Jenkins, Executive Director, stated, "Deregulation and competition is going to cause utilities to rethink their efficiency. How to do business better and how to make government smaller are growing, unavoidable questions" (p16-2).

This applied research project assesses the knowledge management system of the Texas Public Utility Commission in an organizational perspective based on the practical ideal type framework developed through a literature review. The model is used as an assessment tool to examine knowledge management at PUC. The ideal type model for knowledge organizations consisting of the following twelve categories: high performance, customer driven, improvement

driven, excellence driven, high flexibility and adaptiveness, high level of expertise and knowledge, high rate of learning and innovation, innovative IT-enabled, self-directed and managed, proactive and futurist, values trustworthiness and relationships, and values expertise and sharing of knowledge. Within each characteristic dwell a multitude of elements that support the existence and adoption of the model ideal type. These characteristics are identified by knowledge management organizations in both business and government.

The Texas Public Utility Knowledge Management Assessment was conducted from a case study research design using multiple sources of evidence. Document analysis, a survey instrument, and focused interviews were used to enhance the validity of the research through a triangulation of the data. The findings from the research were somewhat unexpected. As expected, the Texas Public Utility Commission clearly identified with the values and characteristics identified by the model and the literature. Unexpectedly, the Texas Public Utility commission showed evidence that there is a marginal disconnect between employee perception of organizational values and rewards.

The study identified employee perceptions of Texas Public utility Commission's rewards, compensation and motivational system. According to the survey results, on average there existed a fifteen to twenty (15% to 20%) percent decrease between employee perception of organization values and organizations rewards. Roughly, seventy to seventy-five (70% to 75%) percent of employees believed PUC valued each of the twelve (12) characteristics identified in the model, but only fifty to fifty-five (50% to 55%) percent of PUC employees believed PUC rewarded or compensated employee behavior and attitudes that promoted the characteristics identified by the knowledge management organization model. In all fairness, it must be mentioned that only (less than 7) days before the survey was administered PUC, following orders

to cut expenditures by seven to ten (7 to 10) percent terminated 33 full and 4 part-time (37) employees from the agency. Such layoffs due to fiscal stress are commonly followed by low organizational morale. It was also unexpected with such events occurring so close to administering of the survey that fifty percent (50%) plus in most cases still believed that PUC rewarded employees for the behaviors and attitudes identified by the model. It was impressive that respondents still showed weak to medium agreement at fifty percent that PUC rewards individuals and collaborative groups for their accomplishments, behaviors and attitudes. Overall, evidence supported that PUC is definitely identifiable as a knowledge management organization and pioneer in public-sector knowledge organization development and practice.

CHAPTER 1: INTRODUCTION AND STATEMENT OF THE RESEARCH QUESTIONS

The purpose of chapter one is to introduce knowledge management, key scholars and theories concerning knowledge management. Key frameworks and perspectives are discussed that have been developed since knowledge management's inception. The research purpose is introduced. Chapter summaries are provided to inform readers what to expect from the research project.

INTRODUCTION

"Knowledge management (KM) is the discipline of creating a thriving work and learning environment that fosters the continuous creation, aggregation, uses and re-use of both organizational and personal knowledge in the pursuit of business value" (Cross, 1998:11). Cross's definition of knowledge management suits the focus of this research, which is organization and personnel management. Leading researchers in the discipline of knowledge management such as, Thomas Beckman, Jay Liebowitz, Karl Wiig, Paul Quintas, Stephen Little, Thomas Davenport and Tim Ray have all, in some form or another, accepted the existence of one or more knowledge management perspectives. It is these perspectives that lay the foundation for a great deal of the research in the discipline of knowledge management.

"Thomas J. Beckman proposes the following perspectives in which to examine knowledge management: Conceptual, Technology, Organizational, Management, and Implementation" (Liebowitz, 1999: p.1-1). All of the perspectives mentioned are of great importance, but for this research, the organizational and management perspectives are examined.

The Texas Public Utility Commission is identified in literature as an example of an agency that uses a knowledge management system.

The discipline has recognized several organizational concepts that are worthy of consideration. Specifically for this project, knowledge organization characteristics are examined. In terms of management practices, a variety of practices may be needed, including management practices, measuring and valuing intellectual capital, and rewards, compensation, and motivational systems. The first part of this research focuses on the characteristics of knowledge organizations. The second part of this research focuses on rewards, compensation, and motivational systems. The research is an exploratory study.

The research explores the Texas Public Utility Commission's knowledge management program. There are other Texas state agencies that use knowledge management systems. According to Jim Albright, director of information services at the Texas Public Utility Commission, several noteworthy Texas state agencies have visited PUC in order to study the components of their knowledge management system. Albright said "that particular interest has been given to the Texas Public Utility's Interchange and Agency Information Systems." It should be noted that the Interchange system is PUC's external business tool for exchanging information, records, rules and procedures, and status information with external users. External users vary from everyday Texas utility customers to billion dollar telecommunications and electricity industry giants such as Southwestern Bell Communication (SBC) and TU electric. The Texas Public Utility Commission has little or no authority to regulate local municipal utility companies. The Public Utility Commission's main focus is on private utility corporations and customers. The Texas Public Utility Commissions mission is " to protect customers, foster competition, and promote high-quality utility infrastructure" (see Appendix E).

During a conversation with a fellow MPA student, Lucy Cantu, it was discovered that the Texas State Auditor's Office was developing a framework in which to perform audits of knowledge management systems of Texas state agencies. Along with the State Auditor's framework, the research model developed from this research could be used as a prototype for analysis other Texas state agency knowledge management systems. This study lends valuable results that help to identify employee and management perceptions of organization values, and rewards, compensation, and motivational system. The study uses a survey, pre-existing data from PUC, and documents and studies developed by other entities interested in various perspectives of knowledge management.

PURPOSE OF THE RESEARCH

There are three purposes to this study. First purpose is to assess the knowledge organization characteristics of the Texas Public Utility Commission using the practical ideal type characteristics developed from the literature. The second purpose is to explore the rewards, compensation, and motivational system of the Texas Public Utility Commission. The third purpose is to make recommendations for the improvement of Texas Public Utility Commission as a knowledge management organization.

CHAPTER SUMMARIES

Chapter 2 provides background and setting information on knowledge management and government. In addition, a brief introduction is given of four major knowledge management concepts. Chapter 2 also includes a description of the information hierarchy, knowledge creation, intellectual capital, knowledge repositories, and organizational structures. Chapter 3

describes the ideal-model knowledge management organization. Chapter 3 also describes the rewards, compensation and motivational system that should coincide with the organizational characteristics identified with knowledge organizations. Chapter 3 also provides a table that organizes the conceptual framework for this research. The Texas Public Utility Commission's background and mission are the focus of Chapter 4. Chapter 4 also discusses organizational philosophies and concepts at the Texas Public utility Commission. In chapter 5 the research methods are identified and explained. Chapter 6 is the results chapter; the findings from the data are described and explained. Each characteristic is discussed; PUC is assessed to determine if the elements outlined by the model were met. Chapter 7 is the recommendation and conclusion chapter.

CHAPTER II: BACKGROUND/SETTINGS

The purpose of this chapter is to introduce and describe knowledge management as it relates to government. The next objective is to define key components of knowledge management identified by the literature. Brief descriptions of knowledge management concepts such as the information hierarchy and its components, data, information and knowledge are provided. The information hierarchy helps organizations to decide what data, information or knowledge they are looking for and how they are going to find it. This chapter connects knowledge management to processes, functions, and philosophies at the Texas Public Utility Commission. A description of other key principles such as knowledge creation, intellectual capital, knowledge repository, and organizational structure are discussed.

Introduction

“Knowledge management initiatives are on the upswing as managers at all government levels face mounting pressure to work smarter and faster while wrestling with the demands of electronic government and a shrinking workforce” (Williams, 2001,p1). O'Dell and Grayson believe that organizational knowledge, when explicitly managed, is usable to accomplish organization missions. "Knowledge management is therefore a conscious strategy of getting the right knowledge to the right people at the right time and helping people share and put information into action in ways that strive to improve organizational performance" (1998:p6).

Stephen Cranford, president and executive officer of KSolutions Inc., a fledgling knowledge management solution company in Annapolis, Maryland, offers another perspective on the state of knowledge management in the public sector: “Cranford believes that industry and government leaders must become knowledge based organizations to succeed in the future”

(Williams, 2001, p.2). Liebowitz and Beckman make an interesting point concerning the development an evolution of time from decade to decade. According to Liebowitz and Beckman, (1998) “the reality is that the Industrial Age has been eclipsed by the Information Age between 1960 and 1990. In turn, during the 1990s, the Knowledge Age has emerged to supercede the Information Age” (p.51). The organization has developed into a knowledge based entity. The functions of most major departments within organizations such as customer service, information systems, finance, human resource and administration, and management have all become nearly totally knowledge-based.

KNOWLEDGE MANAGEMENT

Laudon (2000) describes knowledge management as the process of systematically and actively managing and leveraging the stores of knowledge in an organization (p.435). For this definition to be true, certain principles and concepts that are the foundation of knowledge management must be understood. The information hierarchy is a very important concept in the discipline of knowledge management; important questions must be answered in order for knowledge management practices to be effective.

Effectiveness of knowledge management organizations also depends on the structure of the organization. "Management of organization knowledge may be especially important in flattened or networked organizations where layers of management have been eliminated to help members of teams and tasks forces maintain ties to other specialists in their field" (Favela, 1997). Organizations are not always able to find data, information, or knowledge in the form that may be needed. At times, the inability to find data, information, or knowledge makes knowledge creation a very important process in knowledge management. Organizations must develop

processes to create knowledge that is beneficial to their missions and goals. Daily business functions are also supported by knowledge initiated from within the organization. The manageability of both organizational processes and functions are heavily dependent on an organization's management of intellectual capital.

Intellectual capital is both a product of information technology and human beings. The economy has placed a high premium on both. Organizations are now being valued numerous times higher because of the intellectual capital that they possess. Possession of such valuable assets must be maintained and stored and accessed in an organizational repository.

Organizational repositories provide the information technology (IT) infrastructure to support knowledge management practices. The repositories are both internal and external providers of information storage and retrieval. Both aspects must be managed in order for knowledge management organizations to be successful. Success is also heavily predicated on the structure of knowledge organizations.

Organizational structure dictates the flow of information and the form of organizational management for knowledge management organizations. Networked/virtual and t-form organizations are the preferred organizational structure of many knowledge management organizations. These organizational structures are preferred because they promote sharing of knowledge and expertise. Organizational structure has a major effect on management's ability to communicate and execute strategic plans.

Information Hierarchy

The existence of an information hierarchy was established early on in the discipline of knowledge management. After reviewing the literature, it is understandable why the information

hierarchy served several important purposes for organizations. For one, the information hierarchy provided valuable understanding and clarity for organizations that must gather, input, process, and interpret information for a purpose. The information hierarchy provided much needed boundaries and clarity between information and its various forms. Once these boundaries and distinctions were recognized and made, organizations could then concentrate on determining what knowledge they had and acquire the knowledge that they were lacking (Nickerson, 2001: p.362).

Scholars such as Pearlson and Nickerson adopted a process view of knowledge management and, in doing so, developed a hierarchy representative of the transformation that occurs as data becomes information and information becomes knowledge. The literature strongly suggests that business and government are now both apart of an information driven society. "All organizations need data and some industries are heavily dependent on it. Banks, insurance companies, utilities, and government agencies such as the IRS and the Social Security Administration are obvious examples" (Davenport and Prusak, 1998: p2). Record keeping is at the heart of these "data cultures, " and effective data management is essential to their success" (Davenport and Prusak, 1998: p2).

The Texas Public Utility Commission, commonly known and refereed to as PUC (or TPUC), understands it has a definite need to understand the concept of an information hierarchy. On a daily basis, PUC must gather, input, process, and interpret information for a purpose. The Texas Public Utility Commission is an organization heavily dependent of data and, without a doubt, places record keeping at the heart of its daily functions and processes.

Data

The definition of data was very uniform throughout the literature. Most definitions were very similar, if not the same as, to Pearlson's definition. Pearlson described data as being the origin of knowledge. Davenport and Prusak (1998) described data as being a set of discrete objective facts about events (p.2). Liebowitz and Beckman (1998) describe data as being the lowest form of knowledge (p.82). Data can be digitized and placed on-line or in storage.

At the Texas Public Utility, electronic records are the basic form of data management; filings are received and processed by high-powered document scanners located in central records. Because record keeping is so important, the organization has a central records department in its organization. Central records is the department responsible for processing of case filings at PUC.

Information

Davenport and Prusak (1998) described information as data that make a difference (p.3). Pearlson supports Drucker's definition that information is data endowed with relevance (p.). Knowledge management organizations need and depend on information that makes a difference on a daily basis. Liebowitz and Beckman (1998) define information as data imbued with context and meaning. Information is data whose forms and contents are useful for a particular task after having been formulized, classified, processed, and formatted (p.83). The major point is that information is more valuable than raw data. Even at times, simple data may make the difference in a management decision. Information is transformed in to knowledge. Knowledge is information that has been synthesized and formulized to help mangers draw some type of conclusion.

Knowledge

Before one can discuss knowledge organizations and knowledge management, it's important to understand what knowledge is and how it differs from information and data.

Knowledge is achieved after understanding has been acquired.

O'Dell and Grayson (1998) developed a working definition of knowledge in which they define knowledge as information in action (p.5). Based on an organizational perspective, O'Dell and Grayson believe that "knowledge is what people in the organization know about their customers, products, processes, mistakes, and successes, whether that knowledge is tacit or explicit" (1998:p.5).

Nickerson (2001) defines knowledge as understanding that a person has gained through education, experience, discovery, intuition, and insight (p.362). Pearlson (2001) defined knowledge as a mix of contextual information, values, experiences, and rules (p.11).

Davenport and Prusak developed a list of components that characterized knowledge. Their framework combines elements from Pearlson's model that he used to define knowledge. The first component was experience. Davenport and Prusak (1998) defined experience as knowledge developed over time through experience that included what was absorbed from courses, books, and mentors as well as informal learning (p.7).

Knowledge Creation

In the chaotic environment where organizations must exist, knowledge management process is a key part of organizational strategy to use and create benefits from the management of knowledge. The literature provided many models that were all sound and somewhat similar. Thomas Beckman (1997) proposed an eight-stage process for knowledge management

(International Conference). The stages of Beckman's model were identify, collect, select, store, share, apply, create, and sell. Liebowitz and Beckman (1998) summarized the characteristics of the knowledge management process to help answer tough questions like: What core competencies are needed? What capabilities need to be met? What knowledge domains need to be created (p.55)? The *identify* stage was for determining what core knowledge was need for organizational success. The *collect* stage was the actual acquiring of existing knowledge, skills, theories, and experience needed to create the selected core competencies and knowledge domains. "A knowledge domain is a narrow and well-bounded specialty, field, discipline, or subject matter" (Liebowitz and Beckman, 1998: p.55). According to Liebowitz and Beckman (1998), the *select* stage takes the continuous stream of collected, formulized knowledge and assesses its value (p.52). The *store* stage takes packet of knowledge and organizes them into their proper classifications and adds them to the organizational repository or memory. The *share* stage retrieves knowledge from the organizational repository or memory and makes it available to users. "Individuals, teams, and departments often share ideas, opinions, gossip, knowledge,, and expertise in meetings held in person or through groupware" (Liebowitz and Beckman, 1998: p.53). Liebowitz and Beckman (1998) believe that the *apply* stage retrieves and uses the needed knowledge in performing tasks, solving problems, making decisions, researching ideas, and learning (p.53). The *create* stage is about discovery and finding of new knowledge through various means such as observation of customers, customer feedback and analysis, casual analysis, benchmarking and best practices, lessons learned from process improvement and reengineering, research, experimentation, creative thinking, automated knowledge discovery, and data mining (Liebowitz and Beckman, 1998: p54). The eighth stage is optional, it maybe added,

if needed. The *sell* stage is when new products and services are marketed outside the organization.

Intellectual Capital

In recent years, intellectual capital has become a buzzword in business and in government. The literature suggests that intellectual capital became a phenomenon born from the knowledge economy. The knowledge economy is the belief that public and private sector economic stability and growth are dependent upon the level of knowledge held within an organization. This knowledge is centered on information technology and human capital. Organization knowledge became an intangible asset, hardly visible or measurable, but definitely a true and undeniable factor in public and private sector economic success. Edvinsson and Malone (1997) define human capital as the combined knowledge, skill innovativeness, and ability of the company's individual employees to meet the task at hand. Human capital also includes the organization's values, culture and philosophy (p.11). Organizational values, culture and philosophy are included because they help to nurture and promote the desired behavior and attitudes that knowledge organizations want to advance. The characteristics identified by Edvinsson and Malone are very important for the development of the framework used in this research. Knowledge organizations understand the importance of having innovative, knowledgeable, and capable employees. Employees who demonstrate these characteristics, are capable of elevating good, sound organizations to the status of high performing knowledge organizations. One form of intellectual capital is structural capital. Edvinsson and Malone identify structural capital as being tangible and measurable.

“Structural capital is defined as the hardware, software, databases, organizational structure, patents, trademarks, and everything else of organizational capability that supports those employee’s productivity, in a word, everything left at the office when the employees go home. Structural capital also includes customer capital, the relationships developed with key customers. Unlike human capital, structural capital can be owned and thereby traded” (Edvinsson and Malone, 1997: p.11). In summary, intellectual capital is probably the most valuable resource in the organization. Liebowitz and Beckman (1998) believe that such capital must be treated properly and shared appropriately with others in the organization (p.33). They also believe intellectual property is an organizational investment, an organizational cultural asset, and a tool for collaboration and greater achievement (p.33). “Human capital plus (+) structural capital is equal (=) to intellectual capital” (Edvinsson and Malone, 1997: p.11). The characteristics of knowledge organizations should reflect both human and structural capital elements because they are both critical to the success of knowledge organizations.

Organizational Memory/Repository

Organizational memory is a phrase that is very important to the concept of a knowledge organization. “knowledge must be formulized to the maximum extent possible in order for it to be available and usable” (Liebowitz and Beckman, 1998: p.85). It is not enough just to have the culture, structure, and personnel. Liebowitz and Beckman argue that these attributes alone provide very little value to an organization (p.85). It’s very important that organizations do not confuse databases with memory bases. The database is similar in its role but not in its application to memory bases. Databases are a lower form of repository than knowledge repositories. Databases do not store the various types of information and knowledge that

organizational memory banks do. Organizational memory may consist of many different types of knowledge and information. Secondly, information and knowledge are more complex than the data that are stored in most databases. Organizational repositories contain such information as procedures, principles and guidelines, standards and policies, process maps, work flows, plans and schedules, and casual models (Liebowitz and Beckman, 1998: p.85).

Organizational Structure

“According to McGill, Slocum, and Martin, there are benefits to having a network organizational form. The networking organizational form supports collaboration and knowledge sharing” (Liebowitz, 199: p.1-11). Pearlson (2001) defines networked organizations as those that utilize distributed information and communications systems to replace inflexible hierarchical controls with information-based controls (p.37-38). Information-based controls allow knowledge organizations to perform many functions and managerial activities across levels of authority within organizations.

Organizational structure supported by information technology (IT) allows for senior/executive management to be able to communicate directly to lower level staff and managers simultaneously, and now to monitor work progress. Senior/executive managers are also able to interpret work results without waiting for the output to be compiled and summarized by the mid-managers. Senior level managers can get real-time results of tasks as completed or while in the process of being completed.

KNOWLEDGE MANAGEMENT ORGANIZATIONS

According to Liebowitz (1999), having a healthy corporate culture is imperative for success in knowledge management (KM). Zand believes that bureaucratic cultures suffer from a lack of trust and a failure to reward and promote cooperation and collaboration. "Without a trusting and properly motivated workforce, knowledge is rarely shared or applied; innovation and risk-taking cease; organizational cooperation and alignment are non-existent. No wonder that most bureaucratic organizations suffer under marginal performance and are incapable of agile, innovative behaviors leading to future success" (1997).

Liebowitz believes that "management must, if needed, change the existing culture and mindsets so that they are receptive, supportive, and committed to the prospects of the knowledge organization. He believes management must motivate everyone by providing equal opportunities and development as well as just appraisal and rewards. Management must measure and reward the performance, behaviors, and attitudes that are needed and desired. It is essential to measure what you reward, and reward what you measure" (p.1-14).

Liebowitz argues that KM organizations must develop a certain culture and environment that supports the goals of knowledge management organizations. KM goals are defined as the characteristics of KM organizations. These goals not only define the characteristics of KM organizations, but in most cases, define the characteristics of a healthy and productive rewards, motivational, and compensation system. It seems logical that characteristics of KM organizations would be to reward, motivate and compensate the organization and its members. According to Zand, "bureaucratic cultures suffer from a lack of trust and a failure to reward and promote cooperation and collaboration" (Liebowitz, 1999).

The literature presents many strong models and frameworks that support the presence of a reward, motivational and compensation system as a part of knowledge organizations, but the literature does not provide a framework that combines organizational characteristics and rewards, compensation and motivational systems. There seems to be a disconnection between the

rewards, motivational and compensation systems and the characteristics that define KM organizations. Rewards, under Beckman's model of KM perspectives is considered part of the management perspective, and the knowledge organization characteristics are placed within the organizational perspective. Since there was not a framework that included a combination of both components, this research developed a preliminary framework that joins the two elements. There is little doubt that both elements are very much dependent upon one another and should be presented as one major model. The conceptual framework that this research has developed from the literature accounts for the disconnect by including the rewards characteristics as sub-elements of the knowledge organization characteristics.

There is much agreement that bureaucratic organization managers are discouraged from sharing knowledge and expertise. Liebowitz believes that "knowledge is considered a source of power, and thus hoarding is not only expected but is often rewarded" (p.1-16).

"An organization's culture and accompanying social characteristics are important because they complement and maximize the technical tools and processes needed to improve quality" (Kaydos, 1991: xiii). Kaydos (1991) believes the first step in improving quality is to start changing the culture. The author offers procedures to follow (xiii). The principles behind each procedure are added to the framework developed in the research model.

The next component proposed by Davenport and Prusak was values and beliefs. The authors argue that "peoples values and believes have a powerful impact on organizational knowledge" (p.11). Organizations should believe that peoples values and believes have a powerful impact on organizational knowledge. Davenport and Prusak (1998) believe that "organization's have histories, derived from people's actions and words, that also express corporate values and beliefs" (p.11). "The power of knowledge to organize, select, learn, and

judge comes from values and beliefs as much as, and probably more than, from information and logic (Davenport and Prusak, 1998: p.12). Even with proper organizational values and beliefs, organizational culture is still subject to adverse conditions caused by external variables. External variables are found within the environment that organizations must function. Environmental stress comes in various forms, but two well-known and documented forms are fiscal stress and scarcity. Public sector organizations are subject to fiscal stress and scarcity.

Fiscal stress & Scarcity

In the mid-1990s, when President George Bush was governor, politics in Texas revolved around how to distribute the budget surplus. History shows this usually meant that President George Bush would get a big tax cut and the Democrats would get more money for education. According to Jim Yardley of the New York Times, “Texas lawmakers are struggling with budget problems that they claimed are caused by tax cuts United States' President George W. Bush passed in the state as governor” (2001:pA16,Op). With the Republicans in control, the obvious solution to serious budget restraints is cutbacks.

According to an article written in the Economist, February 1, 2003, Texas Governor, Rick Perry and Representative, Tom Craddick called for state agencies to cut their budgets 7% in 2002-2003 fiscal years (with schools, Medicaid, and children’s health excepted) (p29). In order for PUC to meet the 7 % budget cut mandate, a major part of the solution was to terminate thirty-three full and four part-time employees. The current legislative session is grappling with how to plug a \$10 billion hole in the upcoming 2004-2005 budget including a shortfall of nearly \$2 billion from the current fiscal year which ends August (Economist, 2003, p29).

Schick (1981) defines and classifies scarcity. Schick classifies scarcity as relaxed, chronic, acute, and total. Relaxed scarcity maintains a medium level of elasticity in budget controls and is able to continue funding programs at current levels and fund new ones. Chronic scarcity is characterized by difficulty funding a new program. Under this condition there is potential for growth, but not for certain. Acute scarcity occurs when there is no funding available for increases in program costs. “Total scarcity occurs when available revenue is insufficient to meet minimum program needs. Decrementalism emerges when scarcity is acute or total. Decrementalism heightens conflicts and destabilizes the budget process, placing strain on institutions” (Shields, 1988, p64).

Under intense fiscal stress with few, if any, options other than cutbacks, the probability that Public Utility Commission will face consequences such as poor morale and staff burn out, and other problems is very high. The nature of the research model explores employee perception of organization values and believes; therefore, it is possible that survey data may have been affected by low moral due to fiscal stress.

The literature suggests adopting a ‘rational’ approach to management as a way to minimize problems (Shields, 1988, p67). Priority setting and planning are identified as critical ingredients; thus, rationale is to eliminate the least productive program (s) or employees first. According to Turem and Born (1983), this approach may lead to cutting politically-favored programs and employees with seniority. Knighton and Heidelman (1984) “stress a systematic approach that includes examination of financial, human, and environmental resources and selecting a plan of action” (p533).

CHAPTER III: KNOWLEDGE MANAGEMENT ORGANIZATION MODEL

The purpose of this chapter is to describe the ideal characteristics of the ideal knowledge management organization. A second purpose is to describe the rewards, compensation and motivational system of the ideal knowledge management organization. Next, the chapter provides summaries of the conceptual framework that include the both the ideal characteristics and the sub-elements for exploration of the rewards, compensation, and motivational system. Lastly, tables are provided to breakdown the conceptual framework used for the purpose of the research.

High Performance

Liebowitz (1999, p3-19) lists sixty knowledge management related activities, fifty of which are the most commonly observed activities. High performance is usually observed through collaborative or individual performance, with greater emphasis on sharing knowledge (Zand, 1997; Beckman 1998). Quinn, Baruch, Zien (1997) also add enterprise and customer performance to the observed activities of "high" performance. Meeting or surpassing organizational objectives is a good measure of high performance as well.

Customer Driven

The characteristic "customer-driven often is achieved by organizations that implement a customer focused knowledge strategy" (O'Dell & Wiig, 1996, APQC). A customer focused knowledge strategy is a plan that outlines for management a set of instruction to follow for satisfying customer related objectives such as customer satisfaction. Customer satisfaction levels

are also a good gauge (Edvinsson, 1997). Knowledge organizations believe that customer input is vital to success of the organization.

Improvement Driven

Improvement driven characteristic can be observed through organizational investment in partnering, networking, and tools (Edvinsson, 1997). Organizations that invest within the organization do inherently reap benefits as a result. Even when investments fail, knowledge is gained. Investment is a valid tool for improvement of organizational techniques and procedures regardless of outcomes.

Excellence Driven

Excellence driven is usually observed through benchmarks, awards or other forms of recognition. Knowledge organizations that meet the criteria of excellence driven are very much involved with organization programs that recognize individual, collaborative and group performances. Excellence comes as a result of success that has met and exceeded organizational expectations. Excellence is sometimes hard to achieve if realistic goals and objectives are not created. Excellence should be obtainable and achieved frequently. It is very important for employees to observe the success of their peers. Observing success helps to promote and produce the desired behavior and attitudes that lend themselves to success.

High Flexibility and Adaptiveness

High flexibility and adaptiveness is practiced by knowledge organizations through employee retention and recruiting programs (Edvinsson, 1997). The organizations accept the

rule that knowledge organizations should adapt their work forces to the business, organizational and technological strategies practiced by the organization. Organizational learning that occurs as a result of “team work changes the focus of jobs to work that needs doing” (McGill and Slocum, 1994:p.165). Too many times organizations are too dependent upon single groups or individuals and are not able to sustain themselves without the presence of these subject-matter experts.

Knowledge organizations value flexibility and adaptiveness because the goals and objectives of the organization are more important than any one job. Adaptability is often obtained in knowledge organization by providing workers with a guidebook or database of best practices.

Davenport and Prusak developed the component rules of thumb. "Rules of thumb are flexible guides to action that develop through trial and error and over long experience and observation” (Davenport and Prusak, 1998: p.10). Rules of thumb and intuition help to speed up the decision making process for managers because knowledge is accessible in some sort of guide that decreases the complexity of the situation. "Knowledge offers speed; it allows the possessor to deal with situations quickly; and they don't have to build answers from scratch” (Davenport and Prusak, 1998: p10). Decision-makers in organizations should believe that knowledge offers speed in decision making. They should believe rules of thumb are flexible guides to action.

High Levels of Expertise and Knowledge

High levels of expertise and knowledge are observed activities of knowledge organizations. Sveiby (1997) suggests observation of employee education and certifications. According to Sveiby (1997), “most employees of knowledge organizations are highly qualified and highly educated professionals-that is they are knowledge workers” (p.19). Expertise and

knowledge are a combination of skill, experience, value judgements, explicit knowledge, and social network (Sveiby, 1997, p35).

"One of the prime benefits of experience is that it provides a historical perspective from which to view situations and events. Knowledge born of experience recognizes familiar patterns and can make connections between what is happening now and what happened then" (Davenport and Prusak, 1998: p7). Experience allows individuals to become mentors for the purpose of grooming inexperienced or new personnel to an organization. Experience also helps to create expertise because individuals are made skillful or wise through practice.

High Rates of Learning and Innovation

Before high rates of learning can occur, an organization must first recognize its intellectual assets so that it can harness these assets. As a result of the value, the consumption and use of these intellectual assets these assets must be replenished. Liebowitz and Beckman describe harnessing of the intellectual assets as investing in human resources and bringing in talented individuals, visionaries, leaders, detailists, managers, etc. (1998:p26). Of course since there is a limited amount of resources available to each organization, each must find ways to replenish their intellectual assets.

Liebowitz and Beckman claims that one way to replenish intellectual assets is to continually develop employee capabilities. "Continuing education, short courses and seminars, and formal degree programs paid by the organization can enrich the individual's assets and ultimately organizational intellectual assets as well" (Liebowitz and Beckman, 1998:p27). Now, because organizational business areas are so specialized, many organizations choose to educate their employees through informal and formal training developed and presented within the

organization. And when resources become scarce, organizations adopt less expensive internal and or informal ways to educate and replenish the intellectual assets in their organizations. Of course, when money is not an issue, organizations can, if they choose, according to Liebowitz and Beckman (1998) replenish the intellectual assets through company sabbaticals, vacations, general camaraderie in the firm, special events in the organization, and other ways. This allows individuals to feel invigorated and have enjoyment and enthusiasm for working in the organization. When these feelings and attitudes become the norm, high rates of learning and innovation are bound to occur. Some knowledge organizations that are dedicated to increasing learning and innovation within their organizations have developed learning centers.

According to Liebowitz (1999), high rates of learning and innovation are characterized by creating learning centers that are easily accessible. Learning centers can be developed as individual or collaborative learning stations. Individuals are given the opportunity to learn at their own pace and are encouraged to use the centers as much as they wish. The learning centers provide valuable learning and training that prepares employees for opportunities outside their current position. This approach motivates employees to strive for higher position within the organization, not just within their departments. McGill and Slocum (1994) believe that workers should not be confined to the parameters of a single job or task. “Organizations that look upon their work through the lens of jobs are usually characterized by narrow divisions of labor, departmentalization and rigidity” (McGill and Slocum, 1994: p159). This view results in little or no attention being given to the end product or service. In the future, McGill and Slocum (1994) believe that “career advancement will be measured by adaptability and knowledge acquisition, which may take place across several organizations” (p.160).

McGill and Slocum believe learning can occur on three levels, individual, team, and organizational. According to Michael Marquardt, individual learning refers to the change of skills, insights, knowledge, attitudes, and values acquired by a person through self-study, technology-based instruction, and observation (1996). McGill and Slocum identified what they believed to be organization disincentives to learning and innovation.

DiBella and Nevis (1998) outlined three essential criteria of organizational learning: First new skills, attitudes, values, and behaviors are created or acquired over time (p.25). According to McGill and Slocum, knowledge organizations provide opportunities to learn via shared information, take assignments, or job rotation. The keys developed by McGill and Slocum (1994) were developed for the purpose of clarifying an overall organizational view on eliminating any disincentives to learn.

Knowledge organizations clarify the expectations for learning by specifying either skill levels or breadth dimensions of a job. Knowledge organizations do not support policies and or practices that reward the status quo. Knowledge organizations do not support policies and practices that reward pay and promotion based on seniority. Knowledge organizations do support policies and or practices that recognize and reward learning.

“Quinn, Baruch, and Zien believe that strong incentives and a healthy culture are needed to encourage innovation (Liebowitz, 1999:p1-17).” They see one of the biggest problems in achieving independent collaboration as making sure that all participants receive appropriate rewards (Liebowitz, 1999).

McGill and Slocum suggest that workers want to be competent, have control over and have choices in their work and, thus, would respond to motivators such as:

- Significance- work valued by the organization
- Identity-connected to the work and making a contribution

- Autonomy-influence what workers do and how it is done.
- Feedback-direct and clear information about performance

According to the model, employees' desire their work to be valued. Organizations show desire for their employees' work by displaying serious interest. Assigned work has to be related and of significance to organizational goals and objectives. The work must identify the employee or employees who produced the work.

Innovative IT Enabled

According to Baek and Liebowitz, "in this sense, knowledge management serves as an organizational infrastructure that captures and leverages existing information and knowledge assets of the organization, facilitates information and knowledge dissemination across boundaries, and integrates the information and knowledge into to day-to-day business processes" (Expert Systems Journal: 1996)

According to Edvinsson (1997) innovative information-technologies are observed with enabled features such as capital acquisitions, capacity and load of systems infrastructure. Investment in information technology is associated with innovate knowledge organizations. Knowledge organizations require investment in information technology and consistent increases in capacity and load of systems infrastructure. "An innovation actively creates opposition by destroying the plans, power, and wealth of those who are already doing things differently" (Quinn, Baruch, Zien, 1997: p.16). Innovation is threatening to the status quo. Quinn, Baruch and Zien (1997) perceive public organizations as classic examples of an organizations resisting productivity enhancing computers because the technology would decrease the number of personnel reporting to the decision maker and, hence, decrease that person's salary (p16).

Self-Directed and Managed

The practical model includes the characteristic self-directed and managed as a way to assess organizational values and beliefs. Workforce demographics are a strong indication of organizational values and beliefs. Age and tenure are well-developed elements that contribute valuable information about where decisions are made and how they are handled. Organizations with young employees tend to be very structured and receive direction mainly from above. The degree of freedom in decision-making and for input on decisions is usually weaker in younger organizations. Opportunities to develop mentoring and coaching programs internally may be limited as well due to youth and inexperience. Every one of the attributes discussed is an important element that supports the characteristics, attitudes and behaviors desired by knowledge management organizations. KM organizations desire input from employees, hope to empower employees, and try to give them freedom and opportunity to make a difference in the organization as both an individual and a member of a team.

The empowerment index and employee turnover help to observe whether or not an organization is self directed and managed (Edvinsson, 1997). Employees of knowledge organizations desire freedom and autonomy to do their jobs. The fear of making a mistake is worse than actually making a mistake. Employees who are not self-managed are only followers; they are not considered leaders and are not prepared for responsibilities beyond their current position. Management should be a facilitator of ideas and not directions. Usually, employees who desire more freedom but are not given, resign their post. Employee turnover is a major problem for knowledge management organizations because of the dependence on the knowledge

of the employee, and the employee's growth in experience and expertise over time in the organization.

Development of organizational assets includes both structural and human capital which are the major components of intellectual capital. Knowledge organizations seek to develop assets. Mainly, they desire to develop human assets for several reasons. For instance, knowledge organizations desire the opportunity to learn from what each employee has to offer; they also desire stability within the organization from top to bottom which requires employees to like their employer and their job including duties, responsibilities and compensation. Knowledge organizations understand that it is critical to value smart individuals and understand their needs.

Proactive and Futurist

Proactive and futurist characteristics are observed by recognizing the existence of new product design and applications and by calculating a knowledge organization's total investment in new product and service development (Edvinsson, 1997). Edvinsson (1997) believes that organizations that are built to withstand the rigors of chaotic economic times are those organizations that are proactive and futuristic. Knowledge organizations that value proactiveness and futurist ideas are able to be self-sufficient and sustaining because they are able to prevent and predict changes that will affect their organization.

In addition, knowledge organizations are recognized as being self-sufficient and self-sustaining because they don't have to go outside their own organization to develop proactive measures and systems to continue their success. Procedure and policies are implemented to promote proactive behavior and attitudes for the betterment of the organization.

Values Trust and Relationships

According to O'Dell and Grayson (1998), organization valuation of trust is determined by the lack of or the existence of preexisting relationships. Both argue that people absorb knowledge and practice from other people they know, respect, and often like (p.17). Knowledge organizations value the internal and external relationships maintain in their work environment. Relations are built on trust and maintained because of trust. Successful organizations understand how important the truth can be in developing and maintaining relationships both internally and externally.

Davenport and Prusak (1998) model proposes ground truth as the second component of knowledge (p.8). Knowledge organizations must value truth in order to promote sharing of information and knowledge within the organization. Davenport and Prusak borrow the concept of ground truth from the military. The U.S. Army uses a system grounded on truth as a tool for developing knowledge within the armed forces.

Davenport and Prusak (1998) believe that experience changes ideas about what should happen into knowledge of what does happen (p.8). This idea is very consistent with the military opinion that real-life situations experienced close up are more valuable than theory and generalization from abroad. Experts from the Center for Army Lesson Learned (CALL) take part in real military operations as learning observers and disseminate the knowledge learned through photos, video tapes, briefings, and simulations (Davenport and Prusak, 1998: p.8). “Lessons learned in Somalia and Rwanda in the early 1990s, for example, were passed on to the troops involved in the 1994 Haitian mission” (Davenport and Prusak, 1998: p.8). The army has

developed programs as well to teach how and why missions are planned the way they are and why they should be followed.

Another example from the military was the Army's development of its "After Action Review" (AAR) Program. "This exercise examines what was supposed to happen in a mission, what actually happened, why there was a difference between the two, and what can be learned from the disparities" (Davenport and Prusak, 1998: p.8). These programs were developed to increase accountability and values lost during the Vietnam War; they were implemented to restore trust and accountability from experiences that may occur on the battlefield.

Davenport and Prusak (1998) firmly believe that "without trust, knowledge initiatives will fail, regardless of how thoroughly they are supported by technology and rhetoric and even if the survival of the organization depends on effective knowledge transfer" (p34). According to Davenport and Prusak, "trust must be visible" (p.34). Organization managers of private and public institutions should believe that trust ought to be visible both internally and externally at knowledge organizations. Last of all, "the members of the organization must see people get credit for knowledge" (Davenport and Prusak, 1998: p.34). Visibility helps to reinforce the desired behaviors and attitudes that knowledge organizations desire.

Values Expertise and Sharing of Knowledge

Expertise is a valued characteristic of knowledge organizations. "The difference between knowledge and expertise is a matter of degree in results and understanding" (Liebowitz and Beckman, 1998: p50). Knowledge organizations seek proficient, competent and adept individuals who display savvy and able-minded abilities. Individuals who display such qualities would be considered experts. Davenport and Prusak (1998) define experts as "people with deep

knowledge of a subject-have been tested and trained by experience” (p.7). Finally, Liebowitz and Beckman (1998) believe that experts often must reason under uncertainty and apply common sense and general world knowledge to particular situations (p.50).

Knowledge organizations believe knowledge is developed over time. Knowledge organizations use several different learning tools to achieve success. Knowledge organizations use formal learning aids like books, courses, and mentors to develop knowledge. Knowledge organizations are teeming with people with deep knowledge of a subject (who are considered experts) tested and trained by experience. Davenport and Prusak (1998) hold the belief that when firms hire experts, they're buying experience-based insights (p.8). Knowledge organizations believe that subject experts are people who possess experienced-based insights. Knowledge organizations understand that experience, used as a tool, can deepen employee knowledge of a subject. Knowledge organizations show firm convictions that employee knowledge can, and should be, tested for a precise level of expertise or mastery. Knowledge organizations strongly support using job performance to measure level of expertise or mastery.

Job measures such as balancing the ratio between professionals and staff aid in the development of staffing. According to Liebowitz (1999), characteristics that support that an organization values expertise and sharing of knowledge is found in the ratio of professionals; in order to find this ratio, divide the number of professional by the total number of employees. One can also observe and compare the industry pay positions of other organizations with that of the knowledge organization in question.

CONCEPTUAL FRAMEWORK

The conceptual framework for this research is the practical ideal type. The literature strongly supports the existence of a practical ideal-type knowledge organization. The ideal type categories were developed from the literature with its foundation adopted from Liebowitz and Beckman. The model used for this research includes the addition of one new characteristic –trust. The literature strongly supports the development of trust as a necessity for knowledge organizations. Liebowitz and Beckman (1998) have attempted to define the characteristics of the knowledge organization (Liebowitz, 1999,p1-11).

1. High performance
2. Customer driven
3. Improvement driven
4. Excellence Driven
5. High Flexibility and Adaptiveness
6. High levels of expertise and knowledge
7. High rates of learning and innovation
8. Innovative IT-enabled
9. Self directed and managed
10. Proactive and futurist
11. Values Trust and relationships
12. Values expertise and sharing knowledge

Liebowitz (1999) lists sixty knowledge management related activities, fifty of which are the most commonly observed activities (p.3-19). High performance is usually observed through collaborative or individual performance, with greater emphasis on sharing knowledge (Zand, 1997; Beckman 1998). Quinn, Baruch, Zien (1997) also add enterprise and customer performance to the observed activities of "high" performance. Meeting or surpassing organizational objectives is a good measure of high performance as well. "Customer-driven often is achieved by organizations that implement a customer focused knowledge strategy" (O'Dell & Wiig, 1996, APQC). Customer satisfaction levels are also a good gauge (Edvinsson, 1997).

Improvement driven characteristics can be observed through organizational investment in partnering, networking, and tools (Edvinsson, 1997). Excellence driven is usually observed through benchmarks, awards, or other forms of recognition. Knowledge organizations exhibit high flexibility and adaptiveness by practicing employee retention and recruiting programs (Edvinsson, 1997). The knowledge organizations accept the rule that they should adapt their work force to the business, organizational, and technological strategies practiced by the organization. High levels of expertise and knowledge are observed activities of knowledge organizations. Sveiby (1997) suggests observation of employee education and certifications. According to Liebowitz (1999), high rates of learning and innovation is characterized by creating learning centers that are easily accessible. Innovative information technology-enabled features are observed by capital acquisitions, capacity and load of systems infrastructure (Edvinsson, 1997). The empowerment index and employee turnover help to observe whether or not an organization is self directed and managed or not (Edvinsson, 1997). Proactive and futurist characteristics are observed by recognizing the existence of new product design and applications, and by calculating a knowledge organization's total investment in new product and service development (Edvinsson, 1997).

According to Liebowitz (1999) characteristics that support that an organization value expertise and sharing of knowledge is found in the ratio of professionals. One can also observe and compare the industry pay positions of other organization with that of the knowledge organization in question. According to O'Dell and Grayson (1998), organizations determine whether or not characteristics support that it values trust is determined by the existence of preexisting relationships or lack there of relationships. The authors argue that people absorb knowledge and practice from other people they know, respect, and often-like (17).

In addition to the framework provided by Liebowitz and Beckman, the literature strongly suggests several other characteristics that are worth recognizing and developing for a model for gauging knowledge organizations. Rather than expand the list of characteristics, this research develops and draws upon a set of sub-elements for each characteristic based on the implied working hypotheses embedded in the micro-conceptual framework which is the practical ideal type. This approach allows the research to develop an exploratory conceptual framework within the practical ideal type. This framework will be used because knowledge management is a relatively new and developing discipline. By developing the sub-elements, one's conceptual framework is allowed to achieve dual purposes. As mentioned earlier, the second purpose of the research is to explore the rewards, compensation and motivational system of the Texas Public Utility Commission.

REWARDS , COMPENSATION, AND MOTIVATIONAL SYSTEM

According to Liebowitz: management must, if needed, change the existing culture and mindsets of the workforce so that they are receptive, supportive, and committed to the prospects of the knowledge organization. He believes management must motivate everyone by providing equal opportunities and development as well as just appraisal and rewards. Management must measure and reward the performance, behaviors, and attitudes that are needed and desired. It is essential to measure what is rewarded, and reward what is measured” (Liebowitz, 1999 p1-14).

Since the basic building block of any organization is its employees, knowledge management organizations are characterized by the attitudes and behaviors of their employees, thus giving the organization a personality that is representative of the collective. Keeping in mind and based on Liebowitz’s remarks, he gives the strong impression that characteristics, rewards and performance measures are all connected. As a follow-up to Liebowitz’s earlier

comments, one could say that how an organization defines itself, is what should be rewarded, what it rewards, and what it measures. Therefore, undesired attitudes and behaviors should not be rewarded, and anything not worth rewarding should not be measured.

Rewards, Compensation, and Motivational Characteristics

"Liebowitz and Beckman believe in applying a multidimensional measurement approach that is then combine with core values of providing good value to the customer, serving the customer, achieving high performance, leading through expertise and innovation, and sharing and cooperating" (Liebowitz & Beckman, 1998, p169). Therefore organizations should reward:

- High performance
- Customer satisfaction
- Creating new and extending existing knowledge and expertise
- Excellence
- Manageability and versatility
- Personal knowledge and expertise
- Learning and innovation
- Using and leveraging IT infrastructure
- Using and applying the knowledge and expertise in the knowledge repository
- Proactive problem solving and problem prevention
- Trustworthiness
- Teamwork and sharing of expertise and knowledge

Again, to strengthen the practical ideal type, this research model adds five additional elements as part of the rewards, compensation and motivational system. In addition to the framework offered by Liebowitz and Beckman, the literature strongly implies that the element of 'trust' is something very critical when creating knowledge organizations. Therefore, this research includes 'trust' as a characteristic of knowledge organizations and the rewards, compensation, and motivational system. Davenport and Prusak (1998) "believe that without trust knowledge initiatives will fail, regardless of how thoroughly they are supported technology and rhetoric and even if the survival of the organization depends on effective knowledge transfer"

(35). “Trust must be visible, ubiquitous, and must start at the top (Davenport & Prusak, 1998, p35). Using and leveraging IT infrastructure became a necessary component of the rewards systems mainly because information technology infrastructure is a major component of knowledge organizations. Knowledge repositories are developed, implemented and maintained by IT personnel. Since knowledge organization are composed of knowledge workers many understand the important using and leveraging IT infrastructure.

Thomas Beckman provides a four-stage model for using and leveraging information technology in KM organizations. Beckman's model outlines three very important steps that are worthy of inclusion in the practical ideal model. In stages one, two, and three, Beckman's model strengthens the research model characteristic innovative IT-enabled by offering instructions to establish and IS and IT infrastructure, and create knowledge repositories. In stage three, Beckman discusses development of expert systems applications. By adopting stages one, two and three of Beckman's framework, knowledge organizations would definitely qualify as characterized as innovative and IT-enabled. McGill and Slocum believe for organizations to be effective they must effectively reward learning and recognize learning within the organization.

Thomas Beckman proposes a motivational system model that is comprised of five steps, and, in his model, he designates step five, the final step, as rewarding results. This is interpretable as rewarding performance based on outcomes. Therefore, rewarding performance is a good characteristic of knowledge organizations; yet, to maximize performance organizations must reward high performance and excellence. If an organization is lucky, it will have a few occasions to recognize and reward employees who have performed not just at a high level but have done so for a consistent period of time.

Excellence is a product of high performance and time in many cases. Quinn, Baruch, and Zien believe that high achievers want to be measured so they can prove their accomplishments. The author's beliefs supports Beckman's model, which uses performance measures and standards to motivate employees. Step 2 is to develop measures and standards; step 4 is to monitor and assess standards. According to Beckman, Quinn, Baruch, and Zien, rewarding performance and excellence are logical behavior for knowledge management organizations. Again, the objective of the practical model framework is to reinforce the importance of the values and beliefs of the organization. Since the practical model developed from the literature identifies twelve characteristics, then it should identify twelve rewards components that support the organization's reasons for valuing each characteristic. The practical model developed from the literature achieves this mission.

Table 3.0 links the conceptual framework, the model characteristics and the literature. Each characteristic is identified and separately. Each characteristic has several supporting elements that help to validate the existence of each characteristic. Some of these elements validate organizational values and other validate rewards, motivation and compensation system.

Table 3.0: Linking the Practical Ideal characteristics to the literature, Conceptual Framework

Characteristics of Practical Ideal Type:	Source:
<p>High performance -collaborative (group members and customers) -individual (by peers) -reward high performance -values high performance</p>	<p>Liebowitz & Beckman, 1998; Quinn, Baruch & Zien, 1997; O'Dell & Wiig, 1996; Svieby, 1997, McGill and Slocum, 1994 ; Edvinsson, 1997, Beckman 1998 Zand, 1997, Beckman 1998</p>
<p>Customer driven -expected changes in customer base -customer focused knowledge strategy -reward customer satisfaction -values customer satisfaction</p>	<p>Liebowitz & Beckman, 1998; Quinn, Baruch and Zien, 1997; O'Dell & Wiig, 1996; Svieby, 1997, Beckman, 1997 ; Edvinsson, 1997, Beckman 1998; McGill and Slocum, 1994 Zand, 1997</p>
<p>Improvement driven -investment in organizational tools -investment in partnering & networking -uses benchmarks and quantitative metrics -reward creating new and extending existing knowledge and expertise -values improvement</p>	<p>Liebowitz & Beckman, 1998; Quinn, Baruch & Zien, 1997; O'Dell & Wiig, 1996; Svieby, 1997 Edvinsson, 1997</p>
<p>Excellence Driven -awards -values excellence -rewards excellence</p>	<p>Liebowitz & Beckman, 1998; Quinn, Baruch & Zien, 1997 O'Dell & Wiig, 1996; Svieby, 1997; Edvinsson, 1997</p>
<p>High Flexibility and Adaptiveness -employee retention -employee recruiting programs -current average education -reward individuals for being manageable and versatile -values flexibility and adaptiveness</p>	<p>Liebowitz & Beckman, 1998; Quinn, Baruch & Zien, 1997; O'Dell & Wiig, 1996; Svieby, 1997 Edvinsson, 1997; Licker, 1997 Sanchez, 2001</p>
<p>High levels of expertise and knowledge -level of education and certifications -overall-average number of years of experience in the profession -reward personal knowledge and expertise -values high levels of expertise and knowledge</p>	<p>Liebowitz & Beckman, 1998; Quinn, Baruch & Zien, 1997; O'Dell & Wiig, 1996; Svieby, 1997; Edvinsson, 1997; McGill & Slocum, 1994; Zand ,1997; Beckman, 1997; Beckman, 1998</p>
<p>High rates of learning and innovation -training/education costs-competence development -reward learning and innovation -seeks to redesign products, services, and business processes</p>	<p>Liebowitz & Beckman, 1998; Quinn, Baruch & Zien, 1997; O'Dell & Wiig, 1996; Svieby, 1997; Edvinsson, 1997</p>

Table 3.0: Continued Linking the Practical Ideal characteristics to the literature, Conceptual Framework

Characteristics of Practical Ideal Type:	Source:
Innovative IT-enabled -specifically identified strategies -capital acquisitions -capacity & load of systems infrastructure -rewards individuals for using and leveraging IT infrastructure	Liebowitz & Beckman, 1998; Quinn, Baruch & Zien, 1997; O'Dell & Wiig, 1996; Svieby, 1997 Edvinsson, 1997
Self directed and managed -Average age -employee turnover -reward applying knowledge and expertise in knowledge repository -seeks to develop organizational assets	Liebowitz & Beckman, 1998; Quinn, Baruch & Zien, 1997; O'Dell & Wiig, 1996; Svieby, 1997; Edvinsson, 1997
Proactive and futurist -total investment in new product/service development -product design/applications -reward proactive problem solving and problem prevention -values proactive and futurist individuals	Liebowitz & Beckman, 1998; Quinn, Baruch & Zien, 1997; O'Dell & Wiig, 1996 Svieby, 1997 ; Edvinsson, 1997 Zand 1997; McGill & Slocum, 1994 Beckman 1997; Beckman 1998
Values trustworthiness and relationships -trust is visible in -present from upper management -reward trustworthiness and valuing of relationships -values trust and relationships	Liebowitz & Beckman, 1998; Quinn, Baruch & Zien, 1997; O'Dell & Wiig, 1996; Svieby, 1997 ; Edvinsson, 1997; Zand 1997; McGill & Slocum, 1994; Beckman 1997; Beckman 1998 Davenport and Prusak, 1998
Values expertise and sharing knowledge -Ratio of professionals-professionals divided by total employees -industry pay positions -reward teamwork and sharing of expertise and knowledge -values teamwork and sharing of expertise and knowledge	Liebowitz & Beckman, 1998; Quinn, Baruch & Zien, 1997; Svieby, 1997 ; Edvinsson, 1997 Sanchez, 2001

Conclusion

In conclusion, knowledge organizations have developed distinctive characteristics. Many of these characteristics are characterized by the intellectual capital developed by organizations. Intellectual capital is the combined sum of the structural and human capital that an organization holds. For the purpose of this research, the following characteristics are associated with human capital: high rates of learning and expertise, trust and relationships, rewards, compensation and motivational systems, proactive and futurist, self-directed and managed, high rates of learning and innovation, high flexibility and adaptiveness

Characteristics such as customer driven, improvement driven, excellence driven, value expertise and knowledge, and values knowledge and sharing are linked more to the organizational values than to individual values. For organizations which value these characteristics, it is desired that these values, attitudes, and behaviors filter through the organization, reaching every employee. If successful, knowledge organizations must then find a way to gather, store, and disperse the knowledge gained from the success accomplished as a result of the organization's dedication to knowledge management. Organization repositories have been the tool used to perform the before-mentioned tasks.

Organizational memory banks or repositories are the centerpieces for knowledge organizations. A KM organizations acquire, create, apply, build knowledge, innovation, and scientific technological advance are the critical ingredients for economic growth. Customer-oriented organizations that develop unsuccessful innovations usually do so because they fail to match the incentives specifically surrounding the customer's decision makers (Quinn, Baruch and Zien, 1997: p16). Innovative organizations do not make this mistake because strong rewards

and incentive programs are implemented to offset urges to reject innovative technologies that would benefit the public as well as the organization.

Even in their infancy, knowledge organizations have faced many tough questions; luckily many have managed to overcome these major obstacles. For example, knowledge teams seek to ensure that knowledge members are identified, and then linked by technologies. Recognizing accomplishments is a valuable part of what knowledge organizations strive to implement. Knowledge organizations have embraced the concept that knowledge originates and resides in people's minds. As a result, knowledge organizations also have accepted the concept that knowledge sharing requires trust. Trust was a major theme throughout most of the literature. Trust issues are, and have been, a major problem for organizations, especially public organizations. Knowledge organizations have been careful not to over emphasize technology but, at the same time, develop innovative technologies that are capable of creating new knowledge behaviors. It is easy to see that such matters are complex and difficult to solve. Many important questions still exist and require the attention of those interested in the field of knowledge management.

An example of a difficult question would be, is experience often times more valuable than education or intelligence? And, if so, why? This type of question is difficult to answer, but it is proving to be worth investigating because of the increased value and efficiency that is gained. Knowledge organizations have accepted the idea that hiring for experience more often than for intelligence or education is better because they understand the value of knowledge that has been developed and proven over time. Knowledge organization value education, but on an even playing field, the more experienced individual is the most desired of the two. Success in the

business and public communities has spurred significant growth economically and in popularity for practitioners in the field knowledge management.

“Projections for worldwide spending by the private and public sectors on knowledge management services by 2004 range from \$5 billion to \$12 billion” (Williams, 2001). The fad has outlasted the doubters, and the doubters have become believers, including government agencies. The United States State Department is looking at ways it can make its country teams work more efficiently and effectively at two of the nation’s larger embassies. French Caldwell, research director for knowledge management at GartnerGroup Inc., and others understand that by 2004 more than 50 percent of the federal agency workforce is eligible for retirement (Williams, 2001). The time has come for public agencies to fully develop and implement across all boundaries the techniques and concepts that knowledge management has to offer. As a preliminary assessment tool, the model will be used to examine knowledge management at the Texas Public Utility Commission. The next chapter discusses the Texas Public Utility Commission.

CHAPTER IV: TEXAS PUBLIC UTILITY COMMISSION

The first purpose of this chapter is to discuss the background and history of the Texas Public Utility Commission. The second purpose is to describe the organizational and management philosophies of the Texas Public Utility Commission. The third objective is to describe Texas Public Utility Commission's workforce and environment. Last, this chapter discusses knowledge management initiatives and philosophies of the Texas Public Utility Commission.

Introduction to Texas Public Utility Commission

The Texas Public Utility Commission (PUC) is a multi-dimensional organization. PUC is a state of Texas agency that has an important role in government. PUC acts as a middleman between the citizens of Texas and the telecommunications and electric industry giants of the state. "In 1975, Texas became the last state in the country to provide for state-wide comprehensive regulation of electric and telecommunications utilities by creating the Public Utility Commission" (PUC Agency Strategic Plan, 2003-07).

The Public Utility Commission is the state executive agency responsible for guiding market competition in the electric and telecommunications industries in Texas. According to the mission statement, PUC believes its mission is to protect the citizens of Texas from possible abuse by the electric and telecommunication industries. PUC's loyalty is to the citizens; yet, it must be a facilitator of good business principles and techniques because it must be the business representative for the citizens of Texas for their electric and telecommunications needs. PUC's authority and responsibilities are outlined by Texas statutes. "PUC is led by a three-member

commission appointed by the Texas Governor, and the Executive Director, who is selected by the commissioners" (PUC agency strategic plan, 2003-07).

According to PUC Mission and Philosophy statement, PUC strives to provide equitable, efficient, and effective regulation of telecommunications and electric services. The telecommunications and electric industries are competitive and evolving markets. The PUC Strategic Plan for FY 2003-07, specifically mentions in part 2, Organizational Aspect that organizational issues in the areas of human resources, implementing reforms, and staff development have critically affected organizational culture at PUC. The strategic plan supports the idea that these elements may have been the most underrated organizational elements at PUC prior to its adoption of knowledge management principles and perspectives. For PUC, managing knowledge and determining techniques for capturing, distributing, and sharing knowledge within the organization have been key ingredients in success (Liebowitz & Beckman, 1998: p. 10).

According to PUC Agency Strategic Plan, 2003-07, part 2, Organizational Aspects, "the total number of agency staff authorized by the legislature is 244 full-time equivalent (FTE) employees in fiscal years 2002 and 2003." On average, the agency employs between 200 to 230 and operates on a budget of about \$150 million in fiscal year 2002. PUC is headquartered in Austin, Texas. All of its employees work in Austin.

PUC is divided into several divisions that are designed to operate and manage industry-related activities associated with telecommunications and electricity. PUC has a strong legal element within the organization. Practicing attorneys and administrative law judges make crucial day-to-day decisions for the organization. Agency staff includes engineers, accountants, economists, attorneys, and customer-care specialists. Because of the extremely technical and analytical nature of the work that goes on at PUC, its workforce is extremely educated. The

majority of the work is specialized, requiring PUC to seek employees who have attained advanced degrees. "While 85 percent of the PUC employees are professional staff including lawyers, accountants, and engineers most complaints were directed at the clerical functions of Central Records" (Liebowitz, 1999, p16-2). "At the Central Records department of PUC, all legal documents relating to proposed and existing utility regulations are held in the repository" (Liebowitz, 1999, p16-2).

Complaints were directed at the process that PUC used to file and update records. Trips had to be made by individuals who had to line up and gather copies of certain documents. Obviously, this task was time-consuming and expensive for clients of PUC who paid people to stand in line (Liebowitz, 199, 16-2). According to Paula Mueller, deputy executive director of PUC, planning began in 1995. The goal of PUC was to integrate the new document capturing system with the existing Agency Information System. "The primary goals of the new system were to improve document retrieval and distribution process and to eliminate delays in document handling; the new system also aimed to reduce costs to users of PUC central records" (Liebowitz, 1999, p16-2). According to Liebowitz, many of the users of the system were professionals and semiprofessional who incurred high hourly charges while waiting for documents (p16-3).

According to Jim Albright, Director of Information Services and Technology at PUC, knowledge management techniques and practices were used as "business tools." PUC believes that knowledge management has made business with telecommunication and electric companies more efficient and effective. One of the ways that PUC has improved their daily business processes was through the development of an agency information system (AIS). The AIS serves as an organizational management for the entire organization. Jim Albright also believed that AIS

improved information management throughout the organization. PUC has the ability to process over 500 documents of various sizes within the course of a normal business day. "The ongoing volume of documents coming into PUC Central records department is very substantial, 3,000 to 10,000 pages per day, and only a scalable and robust network solution could meet these large requirement. Input excel was chosen because of a proven capacity to handle these large volumes" (Liebowitz, 1999, p16-3). Paper copies of filings, pleadings, and briefs are available instantly in an electronic format within seconds after being scanned. The file system provides virtually instantaneous access to 250 in-house users and Internet access to all available files (p16-3). According to Baek and Liebowitz, "in this sense, knowledge management serves as an organizational infrastructure that captures and leverages existing information and knowledge assets of the organization, facilitates information and knowledge dissemination across boundaries, and integrates the information and knowledge into to day-to-day business processes" (Expert Systems Journal: 1996).

Brenda Jenkins, former executive director of PUC believed that the knowledge management system that PUC developed would become the prototype for all of Texas and for utility commissions all across the country. She also believed that through the demonstration of PUC's success, the efficiency and cost savings produced would be emulated nationwide (p16-3). With such high expectations of benefits to come, PUC needed to understand the necessary principles and philosophies that would make their aspirations materialize. As noted by such scholars as Liebowitz, Beckman, and Davenport, knowledge management initiatives require development and implementation of a reward, motivation and compensation system that can maximize the benefits of knowledge management projects in terms of organizational value.

PUC has had a motivational and rewards system in place for some time. PUC's system is a combination of state rewards and compensation benefits and organizational developed rewards as well. Pay incentives are directed by state human resources directives and through the PUC personnel and payroll department. Benefits outlined by the state include one-time pay bonuses, merit increases based on performance over-a-duration of time, and permanent salary increases due to promotions. At one time, PUC's rewards system rewarded both individual and collaborative performance, but due to the budget restraints that have fallen on the state of Texas, PUC discontinued the individual reward programs that were more frequent and began a quarterly recognition system. Each quarter, in a public setting, PUC recognizes employees for their outstanding performances. Since January 2003, the current rewards system has emphasized rewards and recognition of collaborative efforts. Since PUC was no longer able to recognize both individual and collaborative efforts as frequently, executive managers showed a strong understanding of knowledge management principles by recognizing that it was more important to recognize large numbers of employees rather than single individuals.

CHAPTER V: METHODOLOGY

The purpose of this chapter is to explain the case study research methodology used to assess the knowledge management program at the Texas Public Utility Commission. In order to do a comprehensive case study, multiple methods including survey, document analysis, and focused interviews were used.

Methodology

The case study was chosen because real life contexts were used to uncover certain phenomenon. Further, a case study lends itself to multiple approaches and is, therefore, a comprehensive research strategy (Yin, 1994, p13). Multiple research methods were used to address weaknesses of a potential method. For example, an examination of a mission statement alone may suggest that an agency values high performance. It could, nevertheless, be an empty document void of meaning. Thus, survey questions and interview questions that examine the same issue should support (or fail to support) the findings that the organization values high performance.

Case studies also allow for depth and breath. A stand-alone survey may have been superficial. There is no interest in generalizing these results. Hence, the research norm of generalizability (external validity) does not apply. Case studies are weak on external validity. Since the purpose does not extend beyond the Texas Public Utility Commission the issue is moot. The unit of analysis is an organization or a collection of variables that define a knowledge organization. "Formal social organizations may also be units of analysis in social science research" (Babbie, 2001, p.96). Preliminary contact was made telephonically early January 2003. The initial phone call was made to Mary Doran, who was the Director of Information Technology for PUC. During that initial conversation, the research topic was discussed, and a

second phone call was scheduled for two days later. The second phone call was with Mary Doran again who expressed that PUC was interested in the research topic and wanted to learn what the plan was to perform such a research project. A meeting was set-up in which myself, Mary Doran and Jim Miller discussed the research prospectus. All questions posed were quickly answered using the prospectus as a reference to discuss components such as the topic, the conceptual framework, methodology, and expected findings. The proposal was the document used to market the study. Both felt that the project had merit and was feasible within the time frame outlined. Each method of analysis was discussed with the understanding that support from the executive leadership was needed and that the Legal Department would have to review the survey instrument. Due to support from Mary Doran and Jim Miller, approval from top level management and the Legal Department was obtained without further questioning. The time period identified for gathering the data was February 6th through March 31, 2003. PUC has expressed an interest in knowing the findings of the research. Weaknesses and strengths identified by the research were of interest to PUC management officials. Final draft copies are to be given to Jim Miller, Director of Information Services and Information Technology.

Survey research was chosen to explore the rewards, compensation, and motivational system of the Texas Public Utility Commission, which is a fairly large organization (**See Appendix A: Survey Instrument**). Furthermore, survey research was chosen because "surveys are also excellent vehicles for measuring attitudes and orientations in a large population" (Babbie, 2001, p.238). The survey instrument was developed from the literature. Because the survey had dual purposes, to measure attitudes and perceptions of the organization and to measure its rewards system, the entire population was targeted. Before the layoffs, this survey was to be administered to approximately 210-215 Texas Public Utility Commission employees.

After layoffs (37 employees), Jim Miller estimated the PUC labor force to be around 175 employees. The survey was sent via e-mail to agency staff with access to a personal computer. It was understood that not every individual who works at PUC has a computer, but because of the high education and specialization level of the agency, it was easily calculated that at least 80 to 85 percent of the employees had access to a computer and E-mail. The E-mail was sent out to approximately 135 employees, sixty-five completed surveys were returned. The response rate is estimated to be at 48 percent. According to Babbie (2001), "a response rate of 50 percent is adequate for analysis and reporting" (p256). This survey was intended to reach personnel at all levels of the organization. Survey respondents were not asked to provide names but were requested to provide department affiliation. Descriptive summary statistics were derived from the collected survey response data. Since each questionnaire item had a response range from "Strongly Agree" to "Strongly Disagree", the coding was range from 1 to 5 (1-low and 5-high), respectively, and will allow simple review of agreement vs. disagreement based on the value of each average. Table 5.0 links the conceptual framework to the model characteristics and the survey questions. Questions are coupled with appropriate characteristics that support or fail to support their existence of organizational values or rewards.

Table 5.0 Operationalization: Linking the survey item to the Conceptual framework

Characteristics	Survey Questions
High Performance	
-reward individual performance	1. Texas Public Utility Commission rewards high individual performance.
-reward collaborative performance	2. Texas Public Utility Commission rewards high collaborative performances.
- values high performance	3. Texas Public Utility Commission values high performance.
Customer Driven	
-rewards customer satisfaction	4. Texas Public Utility Commission rewards employees for achieving desirable customer satisfaction levels.

Table 5.0 Continued. Operationalization: Linking the survey item to the Conceptual framework

Characteristics	Survey Questions
Customer Driven	
-values customer satisfaction	5. Texas Public Utility Commission values customer satisfaction.
-customer focused knowledge strategy	6. Texas Public Utility Commission operates with a customer focused knowledge strategy.
-expected changes in customer base	7. Texas Public Utility Commission views customer support as part of the product and as data for improvement.
Improvement Driven	
-investment in organizational tools, partnering and networking	8. Texas Public Utility Commission invests in organizational tools, partnering and/ networking.
Uses benchmarks and quantitative metrics	9. Texas Public Utility Commission uses quantitative metrics and benchmarks.
-values improvement	10. Texas Public Utility Commission values improvement.
Excellence Driven	
-recognition with awards	11. Texas Public Utility Commission recognizes individual, group, and organizational excellence with awards.
-values excellence	12. Texas Public Utility Commission values excellence.
High Flexibility and Adaptiveness	
-reward flexibility and manageability	13. Texas Public Utility Commission rewards individuals for being manageable and versatile.
-values flexibility and adaptiveness	14. Texas Public Utility Commission values flexibility and adaptiveness.
High Levels of expertise and knowledge	
-rewards personal expertise and knowledge	15. Texas Public Utility Commission rewards personal expertise and knowledge.
-values high level of expertise and knowledge	17. Texas Public Utility Commission values high levels of expertise and knowledge.

Table 5.0 Continued. Operationalization: Linking the survey item to the Conceptual framework

Characteristics	Survey Questions
High Rates of Learning and Innovation	
-rewards creating new and extending existing knowledge and expertise	18. Texas Public Utility Commission rewards individuals for creating new and extending existing knowledge and expertise.
-redesign products, services, and business processes	19. Texas Public Utility Commission seeks to perpetually redesign products, services, and business processes.
-transfer of sufficient knowledge to workforce	20. Texas Public Utility Commission seeks to transfer sufficient knowledge to their workforce
Innovation IT-Enabled	
- rewards individuals for using and leveraging IT infrastructure.	21. Texas Public Utility Commission rewards individuals for using and leveraging IT infrastructure.
- values innovation and being IT enabled.	22. Texas Public Utility Commission values innovation and being IT enabled.
- seeks to avoid over dependence upon software and buying of external knowledge	23. Texas Public Utility Commission seeks to avoid over dependence upon software and buying of external knowledge.

Table 5.0 Continued. Operationalization: Linking the survey item to the Conceptual framework

Characteristics	Survey Questions
Self-directed and Managed	
- seeks to avoid over dependence upon software and buying of external knowledge	24. Texas Public Utility Commission seeks to develop organizational assets.
- values self-motivated and autonomous individuals.	25. Texas Public Utility Commission values self-motivated and autonomous individuals.
- seeks to identify, free, and empower individuals.	26. Texas Public Utility Commission seeks to identify, free, and empower individuals.
- rewards individuals for using and applying the knowledge and expertise in a Knowledge Repository.	27. Texas Public Utility Commission rewards individuals for using and applying the knowledge and expertise in a Knowledge Repository.
Proactive and Futurist	
-rewards proactive solving problems and problem prevention	28. Texas Public Utility Commission rewards individuals for being proactive in solving problems and problem prevention
-values proactive and futurist individuals	29. Texas Public Utility Commission values proactive and futurist individuals.
Values Trustworthiness and Relationships	
-rewards trust and valuing of relationships	30. Texas Public Utility Commission rewards trust and valuing of relationships.
-values trust and relationships	31. Texas Public Utility Commission values trust and relationships.

Table 5.0 Continued. Operationalization: Linking the survey item to the Conceptual framework

Values Expertise and Sharing Knowledge	
-values expertise and knowledge	32. Texas Public Utility Commission values expertise and sharing of knowledge.
-rewards sharing expertise and knowledge	33. Texas Public Utility Commission rewards individuals for sharing expertise and knowledge.

Document analysis was used to assess the knowledge organization characteristics of the Texas Public Utility Commission (PUC). Document analysis is appropriate because it is a social research method for studying human communication. Appendices from the PUC Agency Strategic Plan For the fiscal years 2003-2007 (**Appendix B**) were analyzed and constitute the majority of the documents used for this study. The appendices from the PUC Agency Strategic Plan For the fiscal years 2003-2007 include the PUC Strategic Plan: Appendix E (**Appendix C**), PUC Strategic Plan: Appendix F (**Appendix D**), PUC Strategic Plan: Appendix B (**Appendix E**), PUC Strategic Plan: Appendix C (**Appendix F**), PUC Strategic Plan: Appendix G (**Appendix G**), and PUC Strategic Plan : Appendix A (**Appendix H**), Documents from the State Auditor's Office of Texas (SAO) were also analyzed for purposes of this study. Documents from the State Auditor's Office of Texas included: PUC Workforce Summary (**Appendix I**), the annual report on Full-Time Classified State Employee Turnover for FY 2002 (**Appendix J**), the Salary Disparity study of the State's Fiscal Management Employees (**Appendix K**), and the quarterly report on Full-Time Equivalent Employees for the Quarter ending August 31, 2002 (**Appendix L**). Some of the weaknesses evident in document analysis are retrievability, bias selectivity, reporting bias, and access (Yin, 1994, p80). The documents selected for this research are open-record documents and easily accessible to the public; some, if not all, are posted on the

PUC and SAO web-sites. The documents selected are completely within the scope of the framework. Reporting bias was addressed by having key reviewers such as Patricia Shields, Martha Tatum, Kay Hofer and Hassan Tajalli review the draft of the applied research project. Table 5.1 links the conceptual framework to the model characteristics and the document analysis.

Table 5.1: Linking Document Analysis to Conceptual framework

Ideal Type Characteristics	Evidence
High performance -collaborative -individual -values high performance -reward high performance	-PUC Strategic Plan Mission Statement -PUC Strategic Plan
Customer driven -Expected changes in customer base -customer focused knowledge strategy -reward customer satisfaction -values customer satisfaction	-PUC Strategic Plan Appendix F, Survey of excellence -PUC Strategic Plan Service Population Demographics Customer Service Survey -PUC Strategic Plan Fiscal Aspects -PUC Strategic Plan Int/Ext Assessment Telecommunications Activities
Improvement driven -investment in organizational tools -investment in partnering & networking -values improvement -reward creating new and extending existing knowledge and expertise	-PUC Strategic Plan Service Population
Excellence Driven -awards -values excellence -rewards excellence	-PUC Strategic Plan 2003-07 Mission Statement & Philosophy

Table 5.1 Continued. : Linking Document Analysis to Conceptual framework

<p>High Flexibility and Adaptiveness -employee retention -employee recruiting programs -current average education -reward individuals for being manageable and versatile -values flexibility and adaptiveness</p>	<p>-PUC Strategic Plan 2003-07 Appendix E -PUC Strategic Plan 2003-07 Appendix E</p>
<p>High levels of expertise and knowledge -level of education and certification -Overall average number of years in profession -reward personal knowledge and expertise -values high levels of expertise and knowledge</p>	<p>-PUC Strategic Plan 2003-07 Appendix E Workforce Plan 2004-05 -State Auditor's report: January 2003</p>
<p>High rates of learning and innovation -Training/education costs-competence development -reward learning and innovation -seeks to redesign products, services, and business processes</p>	<p>-PUC Strategic Plan 2003-07: Organizational Aspect</p>
<p>Innovative IT-enabled -specifically identified strategies -capital acquisitions -capacity & load of systems infrastructure -rewards individuals for using and leveraging IT infrastructure</p>	<p>-PUC Strategic Plan: Mission Statement PUC Strategic Plan: Appendix G</p>
<p>Self directed and managed -Average age -employee turnover -reward applying knowledge and expertise in knowledge repository -seeks to develop organizational assets</p>	<p>-PUC Strategic Plan Appendix E</p>

Table 5.1 Continued. : Linking Document Analysis to Conceptual framework

<p>Proactive and futurist -total investment in new product/service development -product design/applications -reward proactive problem solving and problem prevention -values</p>	<p>-PUC Strategic Plan: Demand Analysis Future Profile</p>
<p>Values trustworthiness and relationships -trust is visible in -present from upper management -reward trustworthiness and valuing of relationships -values trust and relationships</p>	<p>-N/A</p>
<p>Values expertise and sharing knowledge -Ratio of professionals- professionals divided by total employees -industry pay positions -reward teamwork and sharing of expertise and knowledge -values teamwork and sharing of expertise and knowledge</p>	<p>-PUC Strategic Plan</p>

Note: N/A was appropriate for characteristics that do not have documents that support or fail to support the existence of particular characteristics.

Focused interviews were the third method of analysis used to triangulate the methods of analysis. Triangulation was viewed as important because it minimized the inherent weaknesses of each method of analysis. Triangulation also strengthens the validity of the findings. Focused interviews are short open-ended interviews that follow a certain pattern derived from, in this case, the literature review (Yin, 1994, p84). The focused interview questions were directly from the literature consisting of twelve questions (**See table 5.2**). Some of the inherent weaknesses of interviews are bias and reflexivity. For this research, field practitioners and agency personnel were used to corroborate the data collection. The questions were developed from the ideal type

categories which help to assess how close the Texas Public Utility Commission is to the model type. Statistics are not relevant to this portion of the study. Table 5.2 links the focused interview instrument to the conceptual framework and the model characteristics.

Table 5.2: Linking focused interview instrument to conceptual framework

Characteristics	Evidence:
High performance - reward personal knowledge and expertise	Does the Texas public Utility Commission reward high performance?
Customer Driven - Commission reward customer satisfaction	Does the Texas Public Utility Commission reward customer satisfaction?
Improvement Driven - reward creating new and extending existing knowledge and expertise	N/A
Excellence Driven - reward excellence	Does the Texas Public Utility Commission reward excellence?
High Flexibility & Adaptiveness - reward manageability and versatility	N/A
High Levels of expertise and Knowledge - reward personal knowledge and expertise	Does the Texas Public Utility Commission reward personal knowledge and expertise?
High Rates of Learning and Innovation - reward learning and innovation	Does the Texas Public Utility Commission reward learning and innovation?
Innovative IT-Enabled - reward using and leveraging IT infrastructure	N/A
Self-Directed and Managed - reward using and applying the knowledge and expertise in the knowledge repository	Does the Texas Public Utility commission reward using and applying the knowledge and expertise in the knowledge repository?

Table 5.2: Linking focused interview instrument to conceptual framework

Characteristics	Evidence:
Proactive & Futurist - reward proactive problem solving and problem prevention	N/A
Values expertise and Sharing Knowledge -reward teamwork and sharing of expertise and knowledge	Does the Texas Public Utility Commission reward teamwork and sharing of expertise and knowledge?
Values Trustworthiness and relationships	N/A

Note: N/A was appropriate for questions that were not asked during interviews.

CHAPTER VI: RESULTS

This chapter presents the findings of the Texas Public Utility Commission case study. The findings are used to assess the knowledge management system at the Texas Public Utility Commission. Through survey, document analysis and focused interviews, the case study revealed that the knowledge management system of the Texas Public utility Commission suffered from a disconnect between what the organization values and its rewards, compensation, and motivational system. The organization is more than capable of re-focusing itself using new techniques, practices, and policies. Fiscal stress changes the context; it is not the same environment as the one when the program was initiated. A summary table of the case study results is provided at the end of each criterion.

HIGH PERFORMANCE

Overall, respondents supported the notion that the Texas Public Utility Commission rewards and values high performance (**see table 6.0**). Approximately 60 percent of respondents noted that they strongly agree or agree that PUC rewarded both individual and collaborative performance. Support for valuing high performance was high (87.5% strongly agree or agree). Although not a majority, the survey results show that employees believe PUC values high performance, but does not reward high performance quite as much. It should be noted that none of the respondents voiced strong negative opinions the "strongly disagree" category was never selected, and very few checked strongly agree.

The neutral category was the second largest supported category for questions one and two. Twenty six percent of respondents felt "neutral" that PUC rewards high individual

performance. There was a similar showing of 29.2% (neutral) that PUC rewards high collaborative performance.

Survey

Table 6.0: Survey Results: High Performance

TPUC:	% Strongly agree & Agree	N=Number	Mode
Q1-rewards individual performance	57.5%	65	Agree
Q2-rewards collaborative performance	61.6%	65	Agree
Q3-values high performance	87.5%	64	Agree

Document Analysis

Texas Public Utility Commission Agency Strategic Plan: Mission Statement (Appendix)

The mission statement of the Texas Public Utility Commission focuses on three areas which are customers, competition, and infrastructure. In the PUC Strategic Plan, the mission statement calls on the organization to achieve each component at the highest level possible. PUC's strategic plan (**Appendix B**) states the following: PUC "values integrity, service before self, and excellence in all we do." The mission statement provides evidence that high performance is valued at PUC. Documents were not available to provide confirmation that PUC rewarded high performance, but details of programs and rewards systems were mentioned in the interview with Paula Mueller.

Table 6.1: Linking Document Analysis- High Performance

Ideal Type category	Evidence	Document	Evidence Supports
<p>High Performance</p> <p>-PUC rewards individual performance</p> <p>-PUC rewards collaborative performance</p> <p>-PUC values high performance</p>	<p>-N/A</p> <p>-Outcome measures related to objectives</p> <p>-"Value integrity, service before self, and excellence in all we do."</p>	<p>N/A</p> <p>Mission Statement (Appendix)</p> <p>-Strategic Plan (Appendix)</p>	<p>-N/A</p> <p>Yes</p> <p>Yes</p>

Focused interview

Mueller, who is the Deputy Executive Director for PUC, believed that management had to provide a context for employees to understand why high performance was desired as an organizational characteristic. She believed that "understanding why high performance is important would give employees reason to do what they do at a high level." Mueller's example of high performance was that employees in central records scan 400 to 500 documents per day. She did not specifically say whether or not high scanning outputs were rewarded. She also mentioned that PUC had performance indicators that were handed down from the legislature (Texas). She also believed that it was simply each employee's job to perform at a high standard. As for motivation, she noted that in order to receive a merit raise, performance measures had to be met or exceeded over a certain period time. Practically, she also said, "they (employees) may be doing it (performing highly) because it's their job." When asked about rewarding high individual and collaborative performance, Mueller identified the STAR program or STAR award. She explained that the award was set-up to reward teams and not individuals. She also

mentioned the Outstanding Employee Award, which is awarded quarterly. This program was discontinued at some point. She did not say specifically why, but she did allude to the fact that the program only recognized individual performance, which is not good, if it is the only form of recognition that the organization has implemented. She referred back to the STAR program to mention that individuals get their picture placed in the hall on the seventh floor. Employees also receive their certificates from one of the commissioners at a public meeting. Teams are nominated by managers and then voted for by the managers in a meeting; there is no set schedule for nominations and for giving awards.

CUSTOMER DRIVEN

Survey

Questions four through seven identify strengths and weaknesses of the customer driven element. Table 6.2 shows the breakdown of respondent answers to question that measure customer driven. Fifty percent (50%) of respondents believed that PUC rewarded employees for achieving desirable customer satisfaction levels. The results showed that 9.4% disagreed, 37.5% were neutral, 37.5% agreed, and 12.5% strongly agree that PUC rewarded employees for achieving desirable customer satisfaction levels. An overwhelming majority, 92.3% of respondents believed PUC valued customer satisfaction. In addition, 3.1% disagreed, 4.6% were neutral, 69.2% agreed, 23.1% strongly agreed, and none strongly disagree that PUC rewards employees for achieving desirable customer satisfaction levels. Respondents affirmed the attitude (strongly agree or agree at 75%) that the Texas Public Utility Commission operates with a customer-focused knowledge strategy. And last, 75 percent of respondents strongly agreed or agreed that PUC views customer support as part of the product and as data for

improvement. Consequently, only 3.1% chose strongly disagree, 21.9% were neutral, 57.8% agreed, and 17.2% strongly agreed that PUC viewed customer support as part of the product and as data for improvement. Overall, survey question responses showed strong support that PUC is customer driven, even with weak support that it rewards employees for achieving desirable customer satisfaction levels.

Table 6.2: Survey Results: Customer Driven

PUC:	% Strongly agree & Agree	N=Number	Mode
Q4-reward desirable customer satisfaction levels	50%	64	Agree & Neutral (Both 37.5%)
Q5-value customer satisfaction	92.3%	65	Agree
Q6-customer focused knowledge strategy	73.5%	64	Agree
Q7-customer support part of product and as data for improvement	75%	64	Agree

Document Analysis

PUC Strategic Plan: Appendix F, Survey of Organizational Excellence

PUC strongly encouraged all employees to participate in the Survey of Organizational Excellence conducted by the University of Texas, School of Social Work in 2001. Based on the University of Texas survey results, 33% (47 PUC employees) had received a promotion within two years, and 65% (92 PUC employees) had received a merit salary increase within two years.

PUC Agency Strategic Plan: Service Population Demographics-Customer Service Survey

The Commission participates in a biennial Survey of Organizational Excellence conducted by the University Texas at Austin School of Social Work to obtain information about

how agency employees view their organization, work, and relationships within the organization. The survey was administered the spring of 2002 by the Survey of Excellence Group (SOE) at the University of Texas at Austin School of Social Work. The purpose of the survey was to capture and measure customer service perceptions of PUC in Texas. A secondary goal was to gather information that would offer insight to the Texas Public Utility Commission so that future agency services could be improved. These activities are guided by the Customer Service Standards Act (76th Legislature, 1999, Senate Bill 1563). The findings of the survey were positive in nature with regard to customer satisfaction levels.

The survey question was structured to gauge customer satisfaction levels. The survey used a Lickert scale that used responses that ranged from strongly agree, agree, neutral, disagree, to strongly disagree to gauge customer satisfaction levels. The statement said, "overall, I'm satisfied with my experience" in regards to the customers experience with the agency. The agency received a positive overall satisfaction rating. Seventy two percent of respondents stated they were satisfied with their experience with the agency. By category, the response were as follows: 41 percent "agreed", 31 percent "strongly agreed", 10 percent were "neutral", 9 percent "disagreed", and 9 percent "strongly disagreed."

Overall, the survey revealed that the customer satisfaction level of Texas Public Utility Commission customers was high. The survey supports the model elements outlined under customer satisfaction. Based on the result, it can be concluded that the Texas Public Utility Commission has achieved one element of being a customer driven organization and as a knowledge management organization.

PUC Strategic Plan FY 03-07: Fiscal Aspects

PUC does a great deal to include customers in their philosophy and mission for strategic purposes. PUC employs a customer-focused knowledge strategy by implementing customer education programs. For this biennium, \$18 million was budgeted for the customer education campaign to disseminate factual information to the citizens of Texas about their options in a restructured electric power market.

PUC Strategic Plan FY 03-07: Internal/external Assessment, Telecommunications Activities

PUC viewed customer support as a part of overall product and as data for improvement of products and services by investing, developing, and partnering in various telecommunications activities. One such activity is headed by the administration of the universal service fund, including the Lifeline program for low-income customers.

Table 6.3: Document Analysis: Customer Driven

Ideal Type category	Evidence	Source:	Evidence Supports
Customer Driven			
-Reward for customer satisfaction levels	-33% rec'd promotion in last 2yrs. 65% rec'd merit salary increase within 2 yrs.	Survey of Organizational Excellence (Appendix	Yes
-values customer satisfaction	-72% of employees satisfied w/experience with PUC	- Customer service survey	Yes
-customer focused knowledge strategy	-implementation of customer education program	-Strategic Plan FY 03-07: Fiscal Aspects	Yes
-customer support a part of product & data for improvement	-Lifeline program for low income customers	-Strategic Plan: Internal/External Assessment telecommunications activities	Yes

Focused interview

Mueller discussed the performance measure called, "the percentage of complaints resolved through informal resolution;" she noted that PUC would like to resolve 100 percent of customer complaints through informal resolution process. For clarification purposes, Mrs. Mueller stated that "resolution does not mean that customers always get what they want." For example, during the process, a complaint is referred to an investigator who makes the determination whether a service provider, either electric or telecommunications, has violated or mishandled a customer's service. In some cases, the investigator found that there had been no misconduct or fault on the part of the service provider and that an account may have been disconnected, but it was done so within the regulations. On the other hand, if the service provider was found to have acted outside the boundaries, then PUC's goal was to have the error corrected on behalf of the customer.

IMPROVEMENT DRIVEN

Survey

Elements of the characteristic improvement driven were the focus of questions eight through ten. The survey revealed that 58.5% of respondents believe that PUC invests in organizational tools, partnering, and networking. An acceptable percentage of respondents (only 9.2%) noted that they strongly disagree or disagree that PUC invests in organizational tools, partnering, and networking. An unacceptable percentage of respondents, 32.3% were neutral in their opinion that PUC invests in organizational tools, partnering, and networking. Almost 51% PUC believed that PUC used quantitative metrics and benchmarks. In addition, 40% of respondents were neutral with regard to PUC using quantitative metrics and benchmarks.

Hopefully, fiscal stress has not decreased PUC emphasis on using quantitative metrics and benchmarks. The survey results revealed that 81.7% of respondents strongly agreed or agreed that PUC values improvement. The results from questions eight through ten support the conclusion that PUC worthy of being characterized as improvement driven. Table 6.4 shows the survey results of questions eight through ten. The mode for those particular questions was "agree."

Table 6.4: Survey Results: Improvement Driven

PUC:	% Strongly agree & Agree	N=Number	Mode
Q8-invests in organizational tools, partnering, and networking	58.5%	65	Agree
Q9-uses quantitative metrics and benchmarks	50.8%	65	Agree
Q10-values improvement	81.7%	60	Agree

Document Analysis

Texas Public Utility Commission Agency Strategic Plan

In 1999, in response to the city of Laredo's request, the PUC initiated a project to assist in implementing cross-border extended area calling services (EACS) between the cities of Laredo, Texas and Nuevo Laredo, Tamaulipas, Mexico. In February 2002, the FCC issued a declaratory ruling that applauded the efforts of the cities and the Commission and provided a framework for

implementing the proposed calling plan. This act clearly supports the characteristic of improvement driven due to the nature of the project. The project qualifies under the model element of investment in partnering and networking.

Table 6.5: Document Analysis: Improvement Driven

Ideal Type category	Evidence	Source	Evidence Supports
<p>Improvement Driven</p> <p>-invest in organizational tools -investment in partnering and networking</p> <p>-use quantitative metric and benchmarks</p> <p>-values improvement</p>	<p>-</p> <p>-initiated cross-border extended area calling services (EACS) between the cities of Laredo, Texas and Nuevo Laredo, Tamaulipas, Mexico</p> <p>-</p> <p>-</p>	<p>- Strategic plan: service population</p>	

Focused Interview

N/A is appropriate in this case because no questions were asked that would support or fail to support PUC rewards improvement driven.

EXCELLENCE DRIVEN

Survey

Excellence driven is measured by questions eleven and twelve. According to the survey results, 60% of respondents strongly agreed or agreed that the Texas Public Utility Commission recognizes individual, group, and organizational excellence with awards. It should be noted that

3.1% strongly disagree, 15.4% disagree, and 21.5% were neutral in response to PUC recognition of individual, group, and organizational excellence with awards. The survey results show that there should be some concern about PUC's efforts to recognize individual, group, and organizational excellence with awards. Nearly 37% were neutral or disagree that PUC recognizes individual, group, and organizational excellence with awards. The results were that 86.2% strongly agreed or agreed that PUC values excellence. No respondents selected the strongly disagree category that PUC valued excellence. The survey supports PUC model characterization as excellence driven.

Table 6.6: Survey Results: Excellence Driven

PUC:	% Strongly agree & Agree	N=Number	Mode
Q11-recognizes excellence with awards	60%	65	Agree
Q12-values excellence	86.2%	65	Agree

Document Analysis

PUC Strategic Plan: Mission Statement

The mission statement does not clearly reference excellence in words, but in order to achieve the objectives of the mission statement, it can be assumed that the Texas Public Utility Commission values excellence. The first objective of PUC's mission statement is to protect customers. It's imaginable that if this objective is a concern of the PUC, then it does value excellence. Second, to foster competition as outlined in the mission statement, the goal has to be to use competition as a tool to motivate and develop high quality products and services for the

citizens of Texas. High quality products and services are a quality of excellence driven organizations. Lastly, PUC's final mission objective is to promote high quality utility infrastructure. High quality infrastructure has a strong correlation to excellence driven because excellence is the motivator for the PUC to desire the development of high quality rather than standard or average infrastructure.

Texas Public Utility Commission Agency Strategic Plan: Philosophy

The philosophy of the Texas Public Utility Commission is accountability to Texans. The PUC strives to provide equity, efficiency, and effective regulation in the telecommunications and electrical industries. In the final remarks of the PUC outline, its values are clearly annotated in the philosophy of the Texas Public Utility Commission. PUC's values are integrity, service before self, and excellence in all that is done. Excellence is clearly annotated in the philosophy of the Texas Public Utility Commission. The document analysis supports PUC model characterization as excellence driven.

Table 6.7: Document Analysis: Excellence Driven

Ideal Type category	Evidence	Source	Evidence Supports
<p>Excellence Driven</p> <p>-recognizes individuals, group excellence with awards</p> <p>-values excellence</p>	<p>Desires high quality</p> <p>Excellence expected</p>	<p>Mission statement</p> <p>Strategic Plan: Philosophy</p>	<p>Yes</p> <p>Yes</p>

Focused Interview

During the interview with Paula Mueller, Deputy Executive Director, she made it clear that excellence is not only striven for but expected. Mueller believed that since PUC has such an educated group of individuals, people who were dedicated to education would definitely be motivated individuals who believe in high standards. She also pointed out that a large number of professionals and para-professionals hold advanced degrees; individuals with high standards for education are proven believers in excellence and are comfortable with excellence as the standard for achievement in all outcomes.

Her last and final point was again linked to education as well as organizational structure. PUC has a large number of professionals who are the leaders of the organization. Mueller believed that since employees of PUC located at the middle and top of the organization are highly educated such standards of excellence easily filtered down and throughout the organization. Her reasoning was that since intermediate and high-ranking authorities are excellence driven through education, it would not be difficult to instill that philosophy with staff level employees. Second, she believed that the middle and top-level thinkers and decision-makers are the people who establish the organizational culture, climate, and environment. As a philosophy, she believed that excellence was easy to adopt because of the proven dedication to education by the majority of its employees. The focused interview supported PUC characterization as excellence driven.

HIGH FLEXIBILITY AND ADAPTIVENESS

Survey

Questions thirteen and fourteen addressed the characteristic high flexibility and adaptiveness. Respondents at a percentage rate of 63.1% strongly agreed or agreed that PUC

rewarded individuals for being manageable and versatile. It was disheartening to see that 34.3% of respondents were either neutral (21.5%) or disagreed (13.8%) that PUC rewarded individuals for being manageable and versatile. PUC respondents valued flexibility and adaptiveness at a rate of 83.1% (strongly agreed or agreed). On a brighter note, only 4.6% of respondents strongly disagreed or disagreed that PUC valued flexibility and adaptiveness. The results support the ideal type model which characterizes organization as knowledge management organizations.

Table 6.8: Survey Results: High Flexibility and Adaptiveness

PUC:	% Strongly agree & Agree	N=Number	Mode
Q13-reward individuals for being manageable and versatile	63.1%	65	Agree
Q14-values flexibility and adaptiveness	83.1%	65	Agree

Document Analysis

Employee retention is a problem at PUC. The staff turnover rate during FY 2001 was about 26%. Since 1985, annual turnover has ranged from a high of about 33% in 2000 to a low of about 14% in 1995. Between now and 2007, 46 employees (20%) could potentially leave the Commission based on retirement eligibility. Strategy and development of PUC employee recruiting programs specifically aimed recruiting professionals with the requisite skills to complement the Commission's existing workforce and taking steps to retain these professionals. Over 40% of agency staff has a bachelors degree and 55% of agency employees have advanced degrees. Current education levels are high compared to most state agencies.

Table 6.9: Document Analysis: High Flexibility and Adaptavenss

Ideal Type category	Evidence	Source	Evidence Supports
<p>High Flexibility & Adaptiveness</p> <p>-rewards manageability and versatility</p> <p>-values flexibility and adaptiveness</p>	<p>-employee retention/turnover</p> <p>-employee recruiting programs</p>	<p>-Strategic plan Appendix E</p> <p>-Strategic plan Appendix E</p>	

Focused Interview

N/A is appropriate in this case because no questions were asked that would support or fail to support that PUC rewards high flexibility and adaptiveness.

HIGH LEVEL OF EXPERTISE AND KNOWLEDGE

Survey

Questions fifteen and seventeen address the model characteristic of high levels of expertise and knowledge. There should be concern that 24.6% of respondents were neutral concerning whether PUC rewarded personal expertise and knowledge. Sixty-three point one (63.1%) percent of respondents (strongly agreed or agree) that PUC rewarded personal expertise and knowledge. Only 3% of respondents strongly disagree or disagree that PUC valued high levels of expertise and knowledge. The result showed that 86.2% strongly agreed or agreed that PUC valued high levels of expertise and knowledge. According to the results, PUC is deserving of the characterization of valuing high levels of expertise and knowledge.

Table 6.10: Survey Results: High Levels of Expertise and Knowledge

PUC:	% Strongly agree & Agree	N=Number	Mode
Q15-rewards personal expertise and knowledge	63.1%	65	Agree
Q17-values high levels of expertise and knowledge	86.2%	65	Agree

Document analysis

**Texas Public Utility Commission Agency Strategic Plan: Appendix E
Workforce Plan 2004-2005**

On the last day of May 2002, the PUC had 89 employees (40%) with less than two years of agency service, 153 (66%) with less than five years of service with the agency. There were 56 employees (24%) with five to fourteen years of service, and 22 employees (9.5%) had fifteen or more years of service. The document analysis does not support PUC model characterization as valuing high levels of expertise and knowledge.

State Auditors Office Report: January 2003

In the report issued January 2003 by the State Auditor's Office, PUC had 30% with less than two years of agency service, 34% with between two to four years of service, 14 percent with five to nine years service, 12% with ten to fourteen years service, and 9% with fifteen or more years of service. Based on the results of the two reports, from May 2002 to January 2003, PUC has had a problem developing mid level tenured staff. PUC tends to remain inexperienced considering that 64% to 66% of its employees have less than five years service with agency. This situation may be due to several problems cited in the sate Auditor's report such as

decreasing percentage of salary actions to include promotions, merit, one-time merit, and reclassifications from FY2000 to FY 2002. The document analysis does not support that PUC achieves model characterization as valuing or rewarding personal knowledge and expertise.

Table 6.11: Document Analysis: High Levels of Expertise and Knowledge

Ideal Type category	Evidence	Source	Evidence Supports
<p>High levels of Expertise and Knowledge</p> <p>-reward personal expertise and knowledge</p> <p>-values high level f expertise and knowledge</p>	<p>-Agency Tenure</p> <p>-Agency Tenure</p>	<p>-State Auditor's Office: PUC Report 01/03</p> <p>-PUC strategic Plan: Appendix E</p>	<p>No</p> <p>No</p>

Focused Interviews

Mueller responded as follows: due to the type of work that is done at PUC and the high education level of many of the employees, the type of employees namely attorneys, accountants and people with advanced degrees. PUC preferentially hires people with advanced education and degrees because of the intense analytical work that is done. It's also apart of the PUC culture. She believes that people with high-academic credentials value personal knowledge, or they would not have attained advanced degrees. She believes that it's a cultural thing because it's personal in the lives of many of the employees. In the past, until about a month ago (February), PUC paid for renewal of licenses for attorneys, and professional engineers. PUC also paid for training that was required for continuing education for job related matters. Prior to budget shortfalls, training for attending professional conferences was paid for by PUC.

PUC has an in-house training program that has not been affected by the budget cutbacks, including what is called informal technical training. Material covered in the training is related to setting market rates for utility industries and federal standard market designs. Anyone interested in attending this training can; training is not limited only to personnel who work in a particular sections or department. Regardless of an employee's daily job function, he or she may and are encouraged to attend the informal technical training sessions. This helps employees to understand the entire context of high performance. PUC also invites other affiliated agencies to attend PUC's informal training sessions. Based on interview responses, the focused interview does support that PUC deserves model characterization as valuing high levels of expertise and knowledge.

HIGH RATES OF LEARNING AND INNOVATION

Survey

Questions eighteen through twenty apply to the model characteristic high rates of learning and innovation. Results revealed that 14.1% of respondents strongly disagreed or disagreed that PUC rewards individuals for creating new and extending existing knowledge and expertise. The neutral category reflected that 31.3% of respondents believed PUC rewards individuals for creating new and extending existing knowledge and expertise. Survey results showed that 55% of respondents believed PUC rewards individuals for creating new and extending existing knowledge and expertise. It was disappointing to see that 32.3% of respondents were neutral in their opinions that PUC seeks to perpetually redesign products, services, and business processes. A reasonable percentage of respondents, 10.8% believed that PUC seeks to perpetually redesign products, services, and business processes. The results

showed that 58% of respondents believed (strongly agree or agree) that PUC seeks to perpetually redesign products, services, and business processes. A minimal group of respondents, 6.1% strongly agreed or disagreed that PUC seeks to transfer sufficient knowledge to its workforce. Most notably, 32.3% of respondents were neutral concerning their believes that PUC seeks to transfer sufficient knowledge to its workforce. The findings revealed that 63% believed PUC seeks to transfer sufficient knowledge to its workforce. In closing, the results to questions eighteen through twenty substantiate the model characteristic and that PUC is admirable as a knowledge management organization.

Table 6.12: Survey Results: High Rates of Learning and Innovation

PUC:	% Strongly agree & Agree	N=Number	Mode
Q18-rewards individuals for creating new and extending existing knowledge and expertise	54.7%	64	Agree
Q19-perpetually redesigns products, services, and business processes	57%	65	Agree
Q20-seeks to transfer sufficient knowledge to their workforce.	61.6%	65	Agree

Document Analysis

PUC Strategic Plan FY 2003-07: Organizational Aspects: Human Resources

High rates of learning and innovation are distinguished at PUC through select hiring strategy. PUC aims to hire individuals with expertise in related fields as well as relatively

inexperienced staff with relevant educational training. According to PUC Strategic Plan for FY 2003-07, "even experienced staff requires costly specialized training to stay informed about current issues in the rapidly evolving industries. Also, specialized training is necessary for staff such as attorneys and certified public accountants, who must continue professional education to retain their professional certifications." PUC seeks to transfer knowledge of current issues about current issues in the rapidly evolving telecommunications and electric industries. It's obvious that training/education and competence developments are critical to the success of PUC. PUC seeks to redesign business products and services continuously through strategy development outlined in their Strategic Plan FY 2003-07. Due to the competitiveness of markets in the utility industries laws must continuously be monitored and tested against agency desired outcomes and goals.

Table 6.13: Document Analysis: High Rates of Learning and Innovation

Ideal Type category	Evidence	Source	Evidence Supports
<p>High Rates of Learning & Innovation</p> <p>-rewards learning and innovation</p> <p>-seeks to redesign business products, services, and processes</p> <p>-seeks to transfer knowledge to their workforce</p> <p>-Training/education costs-competence development</p>	<p>-N/A</p> <p>-Outline Strategy development current workforce & future demands</p> <p>-specialized training to stay informed about industry</p> <p>-training & continuing education necessary for professional to retain professional certifications</p>	<p>N/A</p> <p>- PUC Strategic Plan FY 2003-07</p> <p>-PUC Strategic Plan FY 2003-07: Organizational Aspects: Human Resources</p> <p>-PUC Strategic Plan FY 2003-07: Organizational Aspects: Human Resources</p>	<p>N/A</p> <p>-Yes</p> <p>-Yes</p> <p>-Yes</p>

Focused interview

Disputes come in the form of case briefs. These cases are documented records of the knowledge. It's everyone's job to keep up with issues in their area. Mueller believes that knowing the exact outcomes of cases are not necessary. If employees are faced with similar issues, individually, each staff member will sort through and determine the legal issue. Legal briefs are logged in on the Interchange system. The Interchange System and the Agency Information System are the agency repositories. The systems act as one; they do similar functions for internal and external users.

INNOVATIVE IT-ENABLED

Survey

Question twenty-one through twenty-three apply to model characteristic innovative information technology (IT) enabled. An unimpressive 18.4% of respondents strongly disagreed or disagreed that PUC rewarded individuals for using and leveraging IT infrastructure. The results discovered that only 44% of respondents strongly agreed or agreed that PUC rewarded individuals for using and leveraging IT infrastructure. As expected, only 4.6% strongly disagreed or disagreed that PUC valued innovation and being IT enabled. The survey results show that an imposing 78% of respondents strongly agreed or agreed that PUC valued innovation and IT enabled. Question twenty-three says that PUC seeks to avoid over dependence upon software and buying of external knowledge. The end result was that only 48% believed that PUC sought to avoid over dependence upon software and buying of external knowledge. The survey results from questions twenty-one through twenty-three only partially

supported that PUC was deserving of recognition of the model characteristic of innovative IT-enabled.

Table 6.14: Survey Results: Innovative IT Enabled

PUC:	% Strongly agree & Agree	N=Number	Mode
Q21-reward individuals for using and leveraging IT infrastructure	44.6%	65	Agree
Q22-values innovation and being IT-enabled	78.4%	65	Agree
Q23-avoids over dependence on software and buying of external knowledge	47.7%	65	Neutral

Document Analysis

Mission Statement

Since knowledge management was first introduced as a business concept, competitive advantage was an important aspect for several reasons. Advantages achieved in the market can produce huge returns. PUC's mission statement upholds innovative qualities by working to foster competition. Fostering competition between industry competitors is a motivator of innovation. When companies compete, the idea is to foster creative and imaginative ideas and concepts to market by encouraging competition.

Texas Public Utility Commission Agency Strategic Plan: Appendix G

Appendix G is PUC's Information Resources Strategic Plan. In it, it outlines the capacity & system load of the Agency Information System (AIS). AIS currently stores 1.1 gigabyte, but is soon projected to store 2.0 gigabyte

The enhancement of the Customer Complaint System to create user interface, increase storage, and reduce network downtime are all supportive activities that provide evidence that PUC is innovative and IT-enabled. The Personnel and the Workload Accounting System (WASUP) Upgrade has a current capacity of 120mgb, but is projected to be at 500mgb. The ability to increase capacity to meet future needs and development also supports PUC's claim. The WASUP is currently holding 2.4 gb, and is projected to be 3.5 gb within the next two to four years. The document analysis supports PUC model characterization as innovative and IT-enabled.

Table 6.15: Document Analysis: Innovative IT-Enabled

Ideal Type category	Evidence	Research method	Evidence Supports
<p>Innovation IT-Enabled -rewards individuals for using and leveraging IT infrastructure -values innovation and being IT -enabled -avoids over dependency on external knowledge</p>	<p>-capacity & system load -Enhancement of Customer Complaint system -Personnel & workload accounting system upgrade</p>	<p>-PUC strategic plan: Appendix G Appendix G Appendix G</p>	<p>AIS-current 1.1 gigabyte Projected 2.0 gigabyte -Create user interface; storage; reduce network downtime</p>

Focused Interview

N/A is appropriate in this case because no questions were asked that would support or fail to support that PUC rewards innovative and IT-enabled efforts by employees.

SELF-DIRECTED AND MANAGED

Survey

Questions twenty-four through twenty-seven connect to the model characteristic self-directed and managed. Question twenty-four says PUC seeks to develop organizational assets. The results of question twenty-four showed that 51.6% believed PUC seeks to develop organizational assets. Question twenty-five says PUC values self-motivated and autonomous individuals. The survey results expressed that 76.5% of respondents strongly agreed or agreed that PUC valued self-motivated and autonomous individuals. Only a small fraction, 6.3% of respondents strongly disagreed or disagreed that PUC valued self-motivated and autonomous individuals.

A very average 52.3% of respondents believed that PUC seeks to identify, free, and empower individuals. The survey results revealed that a disappointingly low, 40% of respondents strongly agreed or agreed that PUC rewards individuals for using and applying the knowledge and expertise in its knowledge repository. Only 18.4% of respondents strongly disagreed or disagreed that PUC rewarded individuals for using and applying knowledge and expertise in a knowledge repository. Based on the results of survey questions twenty-four through twenty-seven PUC is partially worthy of identification of the model characteristic self-directed and managed.

Table 6.16: Survey Results: Self Directed and Managed

PUC:	% Strongly agree & Agree	N=Number	Mode
Q24-seeks to develop organizational assets	51.6%	60	Neutral
Q25-values self-motivated and autonomous individuals	76.5%	64	Agree
Q26-seeks to identify, free, and empower individuals	52.3%	65	Agree
Q27-reward individuals for using and applying the knowledge and expertise in the knowledge repository	40%	65	Neutral

Document Analysis

Texas Public Utility Commission Agency Strategic Plan -Appendix E

Average age of PUC employee is 42 years of age. PUC experience high turn over peaking at 33% in FY 2000 and 26.2% FY2001. PUC is unable to maintain competitive salaries to retain experienced and educated employees in the lucrative telecommunications and electric industries. State Auditor's report concluded that state employees' pay is not competitive with salaries for comparable work in government and private industry for many job classes. Experience gained at PUC is valuable to companies in the telecommunications and electric industries. Due to PUC inability to meet state turnover rate (14.1%) or national turnover rates (12.4%) the document analysis does not support PUC being characterized as self-directed and managed.

Table 6.17: Document Analysis: Self Directed and Managed

Ideal Type category	Evidence	Source	Evidence Supports
<p>Self-Directed & Managed -seeks to develop organizational assets - values self-motivated and autonomous individuals -identify, free, and empower individuals -reward using and applying knowledge & expertise in knowledge repository</p>	<p>Turnover Turnover</p>	<p>Strategic plan Auditor's</p>	<p>No No</p>

Focused Interview

When asked about the PUC's efforts to reward applying knowledge and expertise in knowledge repository, Mueller believed that employees are rewarded for doing their jobs. She noted that it's apart of the work process for each employee to input the relevant and designated information into the knowledge repository. She said, "it is expected of attorneys, accountants and staff in central records." Mueller noted that management depends on real-time information to make decisions; therefore, it was necessary that employees don't see imputing and updating briefs and records as extra, but rather as major processes in their job function. Rewards were based on ability to carry out job functions at a high level. This meant that consistency in performance was highly valued.

Mueller believed that PUC does seek to develop organizational assets. Organizational assets were defined as human and structural capital. She was very pleased with the IT

department efforts to develop and maintain the AIS and Interchange Systems. Both systems are interconnected and are considered one major system. The AIS and Interchange System are the most critical structural assets to PUC and only second to the human assets of the organization.

PROACTIVE AND FUTURIST

Survey

Questions twenty-eight and twenty-nine identify the model characteristic proactive and futurist. Question twenty-eight says that PUC rewarded individuals for being proactive in solving problems and problem prevention. Survey responses revealed that 60% believed PUC rewards individuals for being proactive in solving problems and problem prevention. Question twenty-nine states PUC valued proactive and futurist individuals. Survey findings upheld that 55.4% believed PUC valued proactive and futurist individuals. The percentage of respondents who strongly disagreed or disagreed that PUC rewarded individuals for being proactive in solving problems and problem prevention was 9.2%. Incredibly, 38.5% and 30.8% of respondents voiced neutral opinions that PUC valued or rewarded proactive and futurist individuals. Yet, the final results substantiate that PUC was worthy of the model characterization of proactive and futurist.

Table 6.18: Survey Results: Proactive and Futurist

PUC:	% Strongly agree & Agree	N=Number	Mode
Q28-reward individuals for being proactive in solving problems and problem prevention	60%	65	Agree
Q29-values proactive and futurist individuals	55.4%	65	Agree

Document Analysis

Texas Public Utility Commission Agency Strategic Plan

Section three of the PUC Strategic Plan entitled Demand Analysis Future Workforce Profile, under line B, discussed expected workforce changes. PUC is increasing its use of technology to streamline work processes. Industry changes require PUC to emphasize recruiting and retaining employees such as economists, market analysts and customer service representatives. Line C discussed skill needs. PUC seeks to maintain a highly educated workforce. In the future, employee skills inventories will focus on the following: workload and content management, analytical decision making, information systems data development, budget and planning, internal/external communications, and content knowledge of regulated electricity and telecommunications industries. The strategic plan outlines model elements that substantiate PUC as being proactive and futurist.

Table 6.19 Document Analysis: Proactive and Futurist

Ideal Type category	Evidence	Source	Evidence Supports
<p>Proactive & Futurist</p> <p>-total investment in new product/service development</p>	<p>-Investment in recruiting and retaining educated employees</p>	<p>-PUC Strategic Plan: Skills Needs</p>	<p>Yes</p>
<p>-product design/applications</p>	<p>-Expected changes in workforce. Future skills needed</p>	<p>-Strategic Plan: Demand Analysis Workforce profile</p>	<p>Yes</p>

Focused interviews

N/A is appropriate in this case because no questions were asked that would support or fail to support PUC rewarding proactive and futurist activities.

VALUES TRUSTWORTHINESS AND RELATIONSHIPS

Survey

Questions number thirty and thirty-one pertain to model characteristic-values trustworthiness and relationships. Survey results were favorable, but only 54.7% voiced that they strongly agreed or agreed that PUC rewarded trust and valuing of relationships. It was nerveing to see that 26.6% of respondents were neutral in their perception that PUC rewarded trust and valuing of relationships. The findings concluded that 64.6% of respondents strongly agreed or agreed that PUC valued trust and relationships. Again, it was disturbing see that 21.5% of respondents voiced a neutral opinion that PUC valued trust and relationships. PUC is admirable in that it met the criteria for characterization of the model characteristic values trust and relationships.

Table 6.20: Survey Results: Trust and Valuing of Relationships

PUC:	% Strongly agree & Agree	N=Number	Mode
Q30-reward trust and valuing of relationships	54.7%	64	Agree
Q31-values trust and relationships	64.6%	65	Agree

Document Analysis

The structure of the Texas Public Utility Commission identifies closely with networked and t-form organizations. Both structures are favorable to establishment and development trust. Networked and t-form organizations are praised for not being hierarchical in nature. Networked organizations lend themselves to sharing of expertise and information through cross sectional interaction. Vertical and horizontal lines of communication are open, thus allowing employees to show trust in one another. Trust is present in upper management because networked organizations use every resource possible to make decisions. Feedback from lower ranking personnel is very important to upper management. Within networked organizations, management depends on critical insight that is shared in all directions of the organization. Employees feel that their work is significant and trust that their efforts are not in vein.

Table 6.21: Document Analysis: Trustworthiness and Valuing Relationships

Ideal Type category	Evidence	Source	Evidence Supports
<p>Values Trustworthiness & Relationships</p> <p>- trust is visible in</p> <p>-present from upper</p>	<p>-Organizational Structure</p> <p>-Organizational structure</p>	<p>-PUC : Organizational Chart</p> <p>- PUC : Organizational Chart</p>	<p>Yes</p> <p>Yes</p>

Focused interview

N/A is appropriate in this case because no questions were asked that would support or fail to support PUC rewards trustworthiness and valuing of relationships.

VALUES EXPERTISE AND SHARING KNOWLEDGE

Survey

Questions thirty-two and thirty-three address the model characteristic value expertise and sharing knowledge. The survey results exhibited that 80% of respondents strongly agree or agree that PUC values expertise and sharing of knowledge. Findings also revealed that 1.5% strongly agreed, 3.1% disagreed, 15.4% were neutral, and 12.3% strongly agreed that PUC values expertise and sharing of knowledge. Survey results displayed average support. Only 56.3% of respondents strongly agreed or agreed that PUC rewards individuals for sharing expertise and knowledge. Based on the survey results for questions thirty-two and thirty-three PUC is worthy of recognition of model characteristic values expertise and sharing knowledge.

Table 6.22: Survey Results: Expertise and Sharing of Knowledge

PUC:	% Strongly agree & Agree	N=Number	Mode
Q32-	80%	65	Agree
Q33-	56.3%	64	Agree

Document Analysis

Texas Public Utility Commission Agency Strategic Plan

The ratio of professionals to employees is about 3 to 1. Between December 1, 2001 and February 28, 2002, 62% of PUC were considered professional with 4% classified as para-professional. Combined together, 66% of the PUC’s workforce is considered professional, leaving 34% under the classifications of skilled craft, administrative, administrative support and technical. PUC has a high ratio of professional in its organization. The statewide management to staff ratio was 1 manager to 13.4 staff members. State agencies are required to develop

procedures for achieving a ratio of 1 manager to 11 staff members. Based on the document analysis PUC does meet the model characterization of value expertise and sharing of knowledge.

Table 6.23: Document Analysis: Values Expertise and Sharing Knowledge

Ideal Type category	Evidence	Source	Evidence Supports
Values Expertise & sharing knowledge -Values expertise & sharing of knowledge -rewards sharing expertise and knowledge	-3 to 1 manager to staff ratio	-PUC Strategic Plan: Appendix E	Yes

Focused Interview

Paula Mueller, Deputy Executive Director of PUC noted that the divisions at PUC have team meetings or staff meetings as an opportunity to share information about different issues or cases. The senior management team meets about every other week to talk about what’s going on. Management uses this venue as an opportunity to share information about cases. PUC has an informal mentoring program that joins experienced employees of similar job level or functions with inexperienced or new employees. It’s the mentor's job to ensure that the case is handled properly and that the new person is helped in every way possible. The mentor becomes the first reviewer for any work produced by the new pupil. Many times workers are sitting around talking shop after hours. The workforce has individuals who are interested in what they do, so they will talk about it. Of course, PUC wants people to talk to each other, but there is a limit to interaction during business hours because work has to be completed.

Once again, Mueller emphasized that because of the specialized nature of the work done at PUC, it's very important to build leadership from within. PUC is looking to develop

management from its own workforce. She also mentioned that PUC is expected to maintain a high manager to employee ratio. She stressed that importance of having a workforce that does not stretch managers thin, it's impossible to get every question or problem in front of the manager. Too many direct reports inhibit the manager's productivity. A buffer develops between managers and staff. The focused interview supported the model characterization of valuing expertise and sharing knowledge.

CHAPTER 7: RECOMMNDTIONS & CONCLUSION

The purpose of this research was to: (1) assess the knowledge organization characteristics of the Texas Public Utility Commission using the practical ideal type characteristics developed from the literature; (2) explore the rewards, compensation, and motivational system of the Texas Public Utility Commission.; and (3) make recommendations for the improvement of Texas Public Utility Commission as a knowledge management organization. Chapter 3 described the ideal characteristics and developed a conceptual framework for an assessment based on the literature review. Chapter 6 presented the results of the assessment based on survey, document analysis, and focused interviews. This chapter addresses the third purpose by presenting the recommendations for improving the Texas Public utility System based on the assessment results. Additionally, the practical ideal type presented in Chapter 3 is modified due to needs and challenges of the PUC as revealed by the case study.

Recommendations

The knowledge management organization model allows the case study to identify weaknesses in the Texas Public Utility Commission values and rewards, compensation, and motivational system. Table 6.1 connects the recommendations to the practical ideal type based on the results of the case study. In short, the following recommendations are made:

1. Employee rewards, compensation and motivational system as it relates to high performance needs to be improved. There needs to be a higher belief that the organization rewards high performance.
2. PUC needs to increase employee confidence that they will be rewarded for establishing and maintaining high customer satisfaction levels.
3. PUC needs to increase employee awareness of quantitative metrics and benchmarks for performance measurement.
4. Employee perception of rewards for excellence needs to be increased to the perception level employees showed valuing excellence.
5. Employee retention rates need to be improved.
6. Agency tenure of employees with five to fifteen years of service needs to be improved.

7. Employee confidence in rewards system concerning personal expertise and knowledge needs to be improved.
8. Employee confidence in rewards system concerning creating and extending existing knowledge and expertise needs to be improved.
9. Employee confidence in rewards system in regards to individuals using and leveraging IT infrastructure needs to be improved.
10. PUC needs to decrease turnover rate.
11. Employee confidence in rewards system concerning using and applying knowledge and expertise in knowledge repository needs to be improved.
12. PUC needs to improve development of organizational assets.
13. Employee perception concerning over dependency on external knowledge needs to decrease.
14. Improve rewards systems in to increase employee perception of trust at PUC.
15. Employee confidence in rewards system concerning sharing expertise and knowledge needs to be improved.

Table 7.0: Texas Public Utility Commission Research Case Study Recommendations Summary

Ideal Type Categories	Evidence Supports	Recommendation
High Performance -Collaborative (group members and customers) -Individual (by peers) -reward high performance -values high performance	Yes Yes Yes Yes	-Improve employee believe that PUC rewards high performance
Customer Driven -expected changes in customer base -Customer focused knowledge strategy -reward customer satisfaction -values customer satisfaction	Yes Yes Somewhat Yes	-Improve employee confidence that they will be rewarded for satisfactory customer satisfaction levels
Improvement Driven -investment in organizational tools -investment in partnering & networking -reward creating new and extending knowledge and expertise	Yes Yes Yes	-Communicate and educate use of quantitative metrics better
Excellence Driven -Awards -Benchmarks -values excellence -rewards excellence	Yes Yes Yes Yes	-Work to increase employee perception of rewards to employee value level for excellence
High Flexibility & Adaptiveness -employee retention -employee recruiting programs -current average education -reward individuals for being manageable and versatile -values flexibility and adaptiveness	No Yes Yes Yes Yes	-Improve employee retention rates

**Table 7.0 Continued: Texas Public Utility Commission Research Case Study
Recommendations Summary**

Ideal Type Categories	Evidence Supports	Recommendation
<p>High Levels of Expertise & Knowledge -level of education and certifications -Overall-average number of years of experience in the profession -reward personal knowledge and expertise -values high levels of expertise and knowledge</p>	<p>Yes Somewhat Yes Yes</p>	<p>-Improve agency tenure of employees between five and fifteen years service -increase employee confidence concerning rewards for personal expertise & knowledge</p>
<p>High Rates of Learning & Innovation -Training/education costs-competence development -reward individuals and for creating new and extending existing knowledge and expertise -seeks to redesign products, services, and business processes</p>	<p>Yes Yes Yes</p>	<p>-Continue to increase employee perception in rewards system concerning creating and extending knowledge & expertise</p>
<p>Innovative IT-Enabled -specifically identified strategies -capital acquisitions -capacity & load of systems infrastructure -rewards individuals for using and leveraging IT infrastructure</p>	<p>Yes Yes Yes No</p>	<p>-Increase rate of reward of employees using & leveraging IT infrastructure</p>
<p>Self-Directed and Managed -Average age -employee turnover -reward applying knowledge and expertise in knowledge repository -seeks to develop organizational assets</p>	<p>Yes No No Somewhat</p>	<p>-Decrease turnover rate. -Recognize and reward employees for applying knowledge and expertise -Improve development of organizational assets.</p>
<p>Proactive & Futurist -total investment in new product/service development -product design/applications -reward proactive problem solving and problem prevention -values proactive and futurist individuals</p>	<p>Yes Yes Yes Yes</p>	<p>-Work to increase employee perceptions concerning over dependency on external knowledge.</p>
<p>Values Trustworthiness and relations -trust is visible in -present from upper management -reward trustworthiness and valuing of relationships -values trust and relationships</p>	<p>Yes Yes Yes Yes</p>	<p>-Increase trust visibility in organization</p>
<p>Values Expertise & Sharing Knowledge -Ratio of professionals-professionals divided by total employees -industry pay positions -reward teamwork and sharing of expertise and knowledge -values teamwork and sharing of expertise and knowledge</p>	<p>Yes No Somewhat Yes</p>	<p>-Improve rewards system concerning sharing expertise & knowledge -Continue rewarding teamwork and sharing</p>

Improve employee belief that PUC rewards high performance

The rewards program at PUC is not reflecting the same understanding and commitment that employees have of PUC. High performance was a model characteristic that PUC was able to fit very well. For some reason, employees did not believe as strong as they should have that PUC rewards employees for high performance. The survey supported this conclusion by showing that 51 percent believed PUC rewards individual performance. Yet, the same survey revealed that 87 percent believed PUC valued high performance. Both numbers are positive, but the gap between organizational value and the reward elements is too large.

Improve employee confidence that they will be rewarded for satisfactory customer satisfaction levels

Employees should be confident that they would be rewarded for achieving satisfactory customer satisfaction levels. It's very dangerous and counter productive for organizations not to maintain equilibrium between what they value and what they reward. PUC serves a large customer base, the entire state of Texas. It can't afford to allow citizens to know that the people serving them are not motivated and, as a result, are not going to perform up to their capabilities. It is possible that some customers could believe that the way organizations treat employees is the way they treat their customers.

Communicate and educate use of quantitative metrics better

Quantitative metrics has a serious and valuable purpose in knowledge management organizations. Performance measurements and outcome measures play a major role in determining the success rate of KM organizations in most parts. Quantitative metrics help to

prove accountability and successes. Organizations who communicate the importance of quantitative metrics have a strong chance of obtaining high levels of excellence.

Work to increase rewards perceptions to value perception level for excellence

Rewarding excellence improves organizational moral. Rewarding excellence provides management opportunities to broaden their message that excellence is expected.

Excellence should be obtained frequently, even daily, if possible. By valuing excellence knowledge organizations increase employee's satisfaction with their jobs as well as with their employer. Organizations must have expectations, or they would not be profitable. Such expectations are fuel for employees to do their best.

Improve employee retention rates

Employee retention is important; for one, no organization wants to become a revolving door to employees. Organizations lose flexibility when they can't sustain a core level of employees to perform daily business processes and functions. If organizations don't sustain a flexible workforce, they will become dependent on small groups which is undesirable. In order to be successful in the chaotic environments of today, both business and government organizations must value a core employee base and aim to keep these jobs staffed by competent and motivated individuals.

Improve agency tenure of employees between five and fifteen year's service

Agency tenure serves several purposes in organizations: it develops a strong middle-management group and shows that there is patience within the organization to develop its own leadership. Knowledge organizations believe that there are benefits to not going outside the

organization to hire and promote staff or management personnel. Senior management becomes very important when those at the top began to retire. If someone is groomed and waiting, the agency does not have to lose experience at all, when long-timers retire. Experience gives speed to decision-making and provides a repository for leaders to call upon when in a bind.

Increase employee confidence concerning rewards for personal expertise & knowledge

In today's work environment, workers are willing to sacrifice and go beyond the call of duty to get educated and trained in their professions. When people sacrifice so much so that they can make a difference in their own lives, it's very discouraging when the knowledge, wisdom and expertise that employees work hard to attain is overlooked and under appreciated. People who have attained advanced degrees have put themselves in an elite category. Figures show that only 2 to 6 percent of Americans have attained a Masters degree; individuals with advanced degrees are special and should be treated that way. Knowledge organizations depend heavily on knowledge workers, therefore they must show the employees that they are appreciated and valued.

Improve employee perception concerning creating and extending existing knowledge and expertise

Knowledge organizations have recognized the fact that intellectual assets must be continuously replenished in order to promote high rates of learning and innovation. One of the ways assets are replenished is by creating new and extending existing knowledge and expertise. Liebowitz and Beckman believe continuing education, short courses and seminars, and formal degree programs paid for by the organization are productive ways to create and extend existing knowledge within knowledge management organizations. The use of organization specific

designed learning centers has been discussed as another method for creating and extending knowledge and expertise. Creating new and extending existing knowledge and expertise is a futuristic answer to changes that are expected to occur in the job market. Scholars like McGill and Slocum believe career advancement will be measured by adaptability and knowledge acquisition. Knowledge acquisition will be accomplished by such methods as creating knowledge and extending existing knowledge and expertise.

Increase rate of reward of employees using and leveraging IT infrastructure

When knowledge organizations can get employees to use and leverage IT infrastructure, it is more than likely to promote the discovery or engineering of innovative ideas or devices. Knowledge organizations need employees to use IT infrastructure so that new technology can be developed. Through daily problem solving and technological experiences, new technology can be developed. Technology enhances organizational achievement only if it's in a continuously evolving state. Employees who are not afraid to leverage equipment and systems to invent new business processes and functions maximize technology.

Decrease turnover rate.

High turnover is a negative business thrust and usually leads to mediocre work products and services. Outstanding levels of achievement come over time; so, when employee turnover increases stability is compromised. Success is compromised and so is the future of the organization in terms of market growth. High employee turnover is a signal to management that employee needs are not being met and that organization pay, compensations, and rewards are inadequate for satisfaction over long period of time. High turnover symbolizes unmotivated and

unimaginative management. There are numerous short and long-term benefits that are appealing to employees; some examples would be time-off, merit, merit raises, and bonuses.

Recognize and reward employees for applying knowledge and expertise

The Interchange and Agency Information system (AIS) are both wonderful business tools that enable PUC to excel to high standards. It is paramount that information, data, and knowledge be processed constantly on a daily basis. In order for PUC to be current on claims or petitions, current information must be readily available. PUC also must have had time to perform whatever analyses were needed. The PUC's systems don't run or maintain themselves; frequent updates are necessary to maintain high quality information for managers to use when deliberating on a decision. Employees with technical skills have to be valued in knowledge organizations because they are the sparks that get the fire burning each business day.

Improve development of organizational assets

Development of organizational assets is serious business for both public and private organizations. Knowledge management organizations seek to develop organizational assets to better understand employee strengths and weaknesses which is a major part of organization management. One big mistake that is often made is the assigning of tasks that are outside the area of expertise of employees. For one, the employee is placed in an uncomfortable situation because he or she either tries, or fails, due to inexperience and lack of knowledge, or they go to their superior and tell them that they are not capable of completing the task successfully. Second, knowledge organizations understand they must compensate employees to their level of performance in order to maximize the potential of organizational assets, both human and structural capital.

Improve employee perception concerning over dependency on external knowledge

For knowledge organizations to be proactive and futurist, investment in new products and services is a must. According to Edvinsson (1997), employees need to be able to recognize organizational commitment to development of new products and services. Identification of newly designed application and software from within the organization is a confidence booster for many employees of knowledge organizations. The idea of self-sufficiency is more than a confidence booster; it is the ingredient that fuels the proactive and futurist attitude and behavior that are desired in knowledge organizations.

Improve rewards system concerning sharing expertise & knowledge

The rewards system must produce behavior and attitudes that will facilitate growth and prosperity in the workplace. The rewards are the tool used to manipulate the work environment and culture. Certain incentives mean the same to a lot of people; so, being as general as possible can be a good thing. Sharing expertise must be valued. When information can be used in various sectors of business, it provides greater opportunities for the desired result that organizations work for, success.

Continue rewarding teamwork and sharing

Teamwork is very underrated, but it can make the difference between success and failure, especially in young organizations that lack sufficient tenured personnel that normally mentor newer employees. By rewarding teamwork, organizations are able to build togetherness amongst employees. It's a proven fact that when people are fond of their environment and coworkers they are more successful. The fewer negative distractions to side track the talented knowledge worker the better. Organizations should be aware of employees who share and are very good in

teams. Employees who thrive in that environment are capable of raising the performance level of peers and the organization.

Increase trust and visibility in organization

Organizations much accept the fact that trust is the one characteristic that will defeat knowledge organizations anytime and anywhere. Lack of trust within an organization may be an indicator that management, as well as staff, is selfish, power hungry, and self-motivated in their work and dealings with others. Trust opens minds to share and to try new ideas. Without trust, there is fear, and fear prevents workers from being innovative, creative, and intelligent. Daily decisions are better when they combine common sense, intuition and logic into decisions that are effective across the organization.

Knowledge organizations believe trust must be visible. Employees need to be able see daily that the organizations for which they work are trustworthy. Trust is a major building block for development of healthy organizational relationships. Knowledge organizations value relationships because in order for knowledge organization to share, create, and extend existing knowledge and expertise, they must develop high a high trust level in the organization, and it must be noticeable. The recommendations are in alignment with the results and conclusion; to help better understand the conclusion Table 7.1 is provided.

Table 7.1 links the conclusion to the research method and conceptual framework. Each characteristic is identified along with the corresponding elements that show support. The research methods are broken down to correspond with individual elements of each characteristic allowing for clear identification of strengths and weaknesses. And, an overall assessment is

provided clarifying whether each particular element was supported or not by one or more research methods.

Table. 7.1: Linking Conclusion to the Research Method and Conceptual Framework

Characteristic	Survey	Document analysis	Focused Interview	Overall
High Performance				
-Collaborative (group members and customers)	-Support	-Support	-Support	-Support
-Individual (by peers)	-Support	-Somewhat	-Support	-Support
-reward high performance	-N/A	-Support	-Somewhat	-Somewhat Support
-values high performance	-Strong Support	-Support	-Support	-Support
Customer Driven				
-expected changes in customer base	-Strong Support	-N/A	-Support	-Support
-Customer focused knowledge strategy	-Strong Support	-Strong Support	-Support	-Strong Support
-reward customer satisfaction	-Weak Support	-Support	-Support	-Support
-values customer satisfaction	-Strong Support	-Strong Support	-Support	-Strong Support
Improvement Driven				
-investment in organizational tools	-Support	-Support	-N/A	-Support
-investment in partnering & networking	-Weak Support	-Strong Support	-N/A	-Support
-value improvement	-Strong Support	-Support	-N/A	-Support
Excellence Driven				
-Awards	-Support	-N/A	-Support	-Support
-values excellence	-Support	-Support	-Support	-Support
-rewards excellence	-Support	-N/A	-Somewhat	-Somewhat Support

Table. 7.1 Continued: Linking Conclusion to the Research Method and Conceptual Framework

Characteristic	Survey	Document analysis	Focused Interview	Overall
High Flexibility & Adaptiveness				
-employee retention	-N/A	-Fails	-N/A	-Fail
-employee recruiting programs	-N/A	-Somewhat	- N/A	-Somewhat
-current average education	-N/A	-Support	- N/A	-Support
-reward individuals for being manageable and versatile	-Support	-N/A	- N/A	-Support
-values flexibility and adaptiveness	-Strong Support	-N/A	- N/A	-Strong Support
High Levels of Expertise & Knowledge				
-level of education and certifications	-N/A	-Support	-Support	-Support
-Overall-average number of years of experience in the profession	-N/A	-Fail	-Somewhat	-Fail
-reward personal knowledge and expertise	-Support	-Fail	-Somewhat	-Somewhat Support
-values high levels of expertise and knowledge	-Strong Support	-Support	-Support	-Support
High Rates of Learning & Innovation				
-Training/education costs-competence development	-N/A	-Support	-Support	-Support
-reward individuals and for creating new and extending existing knowledge and expertise	-Weak Support	-N/A	-Support	-Weak Support
-transfer sufficient knowledge to their work	-Support	-Support	-Support	-Support
-seeks to redesign products, services, and business processes	-Weak Support	-Support	-Support	-Support

Table. 7.1 Continued: Linking Conclusion to the Research Method and Conceptual Framework

Characteristic	Survey	Document analysis	Focused Interview	Overall
Innovative IT-Enabled				
-specifically identified strategies	-Support	-Support	-N/A	-Support
-capital acquisitions	-N/A	-Support	-N/A	-Support
-capacity & load of systems infrastructure	-N/A	-Support	-N/A	-Support
-rewards individuals for using and leveraging IT infrastructure	-Fail	-N/A	-N/A	-Fail
Self-Directed and Managed				
-Average age	-N/A	Support	Support	-Support
-employee turnover	-N/A	-Fail	-Fail	-Fail
-reward applying knowledge and expertise in knowledge repository	-Neutral	-N/A	-Neutral	-Neutral
-seeks to develop organizational assets	-Neutral	-N/A	-Support	-Neutral
Proactive & Futurist				
-total investment in new product/service development	-N/A	-Support	-N/A	-Support
-product design/applications	-N/A	-Support	-N/A	-Support
-reward proactive problem solving and problem prevention	-Support	-N/A	-N/A	-Support
-values proactive and futurist individuals	-Weak Support	-Support	-N/A	-Somewhat Support
Values Trustworthiness and relations				
-trust is visible in	-N/A	-Support	-N/A	-Support
-present from upper management	-N/A	-Support	-N/A	-Support
-reward trustworthiness and valuing of relationships	-Weak Support	-N/A	-Weak Support	-Weak Support
-values trust and relationships	-Support	-N/A	-Support	-Support

Table. 7.1 Continued: Linking Conclusion to the Research Method and Conceptual Framework

Characteristic	Survey	Document analysis	Focused Interview	Overall
Values Expertise & Sharing Knowledge				
-Ratio of professionals- professionals divided by total employees	-N/A	-Support	-Support	-Support
-industry pay positions	-N/A	-Fail	-N/A	-Fail
-reward teamwork and sharing of expertise and knowledge	-Weak Support	-N/A	-N/A	-Weak Support
-values teamwork and sharing of expertise and knowledge	-Strong Support	-N/A	-Strong Support	-Strong Support

Conclusion

Knowledge management is a viable management and business tool in the public sector. The assessment revealed that PUC is a leading public sector agency in the filled of knowledge management. The findings were encouraging. Under the characteristic of high performance PUC supported evidence that it valued high performance and rewarded high performance somewhat.

PUC received strong support that it values customer satisfaction and uses a customer-focused knowledge strategy. Evidence showed that PUC supports and expects changes in customer base and rewards customer satisfaction. PUC is improvement driven and excellence driven. In terms of high flexibility and adaptiveness, PUC scored strong support that it valued flexibility and adaptiveness. Evidence supported that PUC rewarded individuals for being manageable and versatile. Employee recruiting programs received some support; because the programs are in the development and implementation phase, these programs are not currently

apart of PUC personnel management practices. Employee retention failed to support flexibility and adaptiveness because retention is low and turnover is very high in comparison to state and national standards.

Evidence supports PUC valued high levels of expertise and rewarded somewhat personal knowledge and expertise. Weaknesses in retention of mid-career personnel with five to fifteen (5 to 15) years of experience indicated that PUC failed to support overall years in profession standard. By transferring knowledge to its workforce and providing training/education competence development, PUC displayed that it believed valuing high-rates of learning was critical.

Evidence showed that PUC was indeed, innovative and IT-enable, but failed to support that it rewarded individuals for using and leveraging IT infrastructure. The findings revealed that PUC was not completely a self-directed and managed organization. Evidence showed that average age at PUC met favorable standards, but neutral findings failed to support that PUC seeks to develop organizational assets, and that PUC rewards applying knowledge to the knowledge repository (AIS/Interchange System). The combination of these findings prevent PUC from being identified as self-directed and managed. Evidence concerning employee turnover was not satisfactory instead; it was troubling.

The findings provided evidence that PUC was proactive and futuristic. Overall, evidence supported that PUC valued trust and relationships. Evidence supported that trust was visible at PUC and present in upper management. The findings revealed weak support that PUC rewarded trustworthiness and valuing of relationships. Rewarding trust was the only weakness for this characteristic. Evidence supported that PUC valued expertise and sharing of knowledge on most points. Overall, evidence supported that PUC valued expertise and sharing of knowledge. The

only blemish was that PUC was not competitive with industry pay by positions of similar responsibility and stature. Fiscal stress and the government salary and compensation system could have contributed to PUC failing to support this element. Evidence showed weak support that PUC rewarded teamwork and sharing of expertise and knowledge. Overall, evidence supported that PUC was a knowledge management organization.

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Appendix A: Survey of Texas Public Utility Commission Employees

Current literature supports the existence of a rewards, compensation, or motivational systems for Knowledge organizations. Texas Public Utility Commission is being assessed for such a system.

Please Note: All questions are department specific. Please answer using only current position experience and knowledge. Past experience from prior duties are not to be considered when responding to questionnaire. The questions are specific to present position and experience.

Instructions: Beside each of the questions presented below, please answer with one of the following responses: Strongly Agree (SA); Agree (A); Neither Agree nor Disagree (N); Disagree (D); Strongly Disagree (SD)

Characteristics	Survey Questions	SA	A	N	D	SD
	Department:					
High performance	1. Texas Public Utility Commission rewards high individual performance.					
	2. Texas Public Utility Commission rewards high collaborative performances.					
	3. Texas Public Utility Commission values high performance.					
Customer Driven	4. Texas Public Utility Commission rewards employees for achieving desirable customer satisfaction levels.					
	5. Texas Public Utility Commission values customer satisfaction.					
	6. Texas Public Utility Commission operates with a customer focused knowledge strategy.					
	7. Texas Public Utility Commission views customer support as part of the product and as data for improvement.					
Improvement Driven	8. Texas Public Utility Commission invests in organizational tools, partnering and/ networking.					
	9. Texas Public Utility Commission uses quantitative metrics and benchmarks.					
	10. Texas Public Utility Commission values improvement.					

Appendix A Continued: Survey of Texas Public Utility Commission Employees

Characteristics	Survey Questions	SA	A	N	D	SD
Excellence Driven	11. Texas Public Utility Commission recognizes individual, group, and organizational excellence with awards.					
	12. Texas Public Utility Commission values excellence.					
High Flexibility and Adaptiveness	14. Texas Public Utility Commission rewards individuals for being manageable and versatile.					
	14. Texas Public Utility Commission values flexibility and adaptiveness.					
High Levels of expertise and knowledge	16. Texas Public Utility Commission rewards personal expertise and knowledge.					
	17. Texas Public Utility Commission values high levels of expertise and knowledge.					
High Rates of Learning and Innovation	22. Texas Public Utility Commission rewards individuals for creating new and extending existing knowledge and expertise.					
	23. Texas Public Utility Commission seeks to perpetually redesign products, services, and business processes.					
	24. Texas Public Utility Commission seeks to transfer sufficient knowledge to their workforce					
Innovation IT-Enabled	25. Texas Public Utility Commission rewards individuals for using and leveraging IT infrastructure.					
	22. Texas Public Utility Commission values innovation and being IT enabled.					
	23. Texas Public Utility Commission seeks to avoid over dependence upon software and buying of external knowledge.					
Self-directed and Managed	24. Texas Public Utility Commission seeks to develop organizational assets.					

Appendix A Continued: Survey of Texas Public Utility Commission Employees

Characteristics	Survey Questions	SA	A	N	D	SD
Self-directed and Managed	25. Texas Public Utility Commission values self-motivated and autonomous individuals.					
	26. Texas Public Utility Commission seeks to identify, free, and empower individuals.					
	27. Texas Public Utility Commission rewards individuals for using and applying the knowledge and expertise in a Knowledge Repository.					
Proactive and Futurist	28. Texas Public Utility Commission rewards individuals for being proactive in solving problems and problem prevention					
	29. Texas Public Utility Commission values proactive and futurist individuals.					
Values Trustworthiness and Relationships	30. Texas Public Utility Commission rewards trust and valuing of relationships.					
	31. Texas Public Utility Commission values trust and relationships.					
Values Expertise and Sharing Knowledge	32. Texas Public Utility Commission values expertise and sharing of knowledge.					
	33. Texas Public Utility Commission rewards individuals for sharing expertise and knowledge.					

Note: Appendix A has a numbering error that was not corrected because it was present in the survey instrument when it was administered, so in order to maintain coherence the error was duplicated in the research document as well.

