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Institutional Culture, Performance, and Learning in a Two-year Technical/Community College

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INSTITUTIONAL CULTURE, PERFORMANCE, AND LEARNING IN A
TWO-YEAR TECHNICAL/COMMUNITY COLLEGE

A Dissertation
Presented to
the Graduate School of
Clemson University

In Partial Fulfillment
of the Requirements for the Degree
Doctor of Philosophy
Educational Leadership

by
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ABSTRACT

The environments of higher education institutions have undergone significant changes in the past twenty years as a result of concerns expressed in prominent reports. These external concerns and initiatives reflect contemporary criticisms by the public about the efficiency and effectiveness of the performance of institutions. The response from research, legislatures, and the institutions has been to implement practices aimed at improvement and borrowed from business and industry. Research indicates that this performance orientation to change in higher education has largely failed, due in part to the lack of attention given to the culture of the institution.

Emerging research indicates a shift from a performance orientation to change to a learning orientation. Researchers cite the ability of an organization to learn as the principle advantage in today's competitive environment. Although studies of organizational learning have been conducted within the context of business, governmental agencies, and healthcare, little is known about organizational learning within the industry where learning is the core mission. The knowledge society we live in makes the actions of organizational learning essential for the survival and growth of the institution. Institutional culture provides the values, beliefs, and assumptions that guide actions of both the individuals and the institution. To that end, campus culture influences the choices of the institution in selecting change strategies.

The purpose of this case study was to examine the relationship between the change functions of institutional performance and learning and the values, beliefs, and assumptions we know as institutional culture at a two-year technical/community college.

The study attempted to determine whether the actions in institutional performance and learning varied systematically from one culture type to another.

The Organizational Learning Systems Model and the Competing Values Framework provided the theoretical foundations for this study. Institutional performance referred to the four systems of exchange, production/service, coordination and reinforcement. Institutional learning referred to the four systems of environmental interfacing, action and reflection, integration, and memory and meaning. Institutional culture referred to the four cultural types: clan, market, hierarchy, and adhocracy. The perceptions of these twelve variables were measured using a cross-sectional survey methodology that combined two existing instruments.

The study was conducted at the institution level of analysis. Data were collected from the population of full-time and part-time administrators, faculty, and staff with a total of 188 employees participating. Data analysis procedures using Pearson correlation and multiple regression revealed significant findings for research, leadership, and practice. The findings for this study demonstrated a relationship between perceptions of complex campus culture and institutional performance and learning. For this institution, the clan, adhocracy, and hierarchy cultural types had significant relationships with the eight performance and learning subsystems and were determined to be predictors of institutional performance and learning. The findings from this study were inconsistent with previous research that demonstrated the relationship of a dominant cultural type to institutional effectiveness. Instead, the findings supported the premise of the Competing

Values Framework that a complex institutional culture contributed to an increased ability

to perform and learn.

DEDICATION

This dissertation is dedicated in loving memory of my parents,

Holmes and Katherine Maloney,

who gave me roots and wings, and encouraged me to dream.

My prayer is now for the roots and wings of my children, their spouses,

my grandson Sweet William, and my future grandchildren.

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world will never be the same without you. Each life has its own fragile rhythm; love is the discovery of one's own rhythm in another.

To my sons Jay and Alex, the abundant joys of my life from the day you arrived, I especially thank you for your unconditional love, patience, and enduring support. You have made many sacrifices so that I could realize my life-long dream. I am so blessed to have you as sons and friends for life. Your smile and laughter remind me every day of the very extraordinary purpose and inimitable miracle in my life.

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Most of all, I thank my heavenly Father for renewing my strength and blessing me so abundantly. To Him, I give all the glory, and promise to leave this world a better place than when I arrived.

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CHAPTER ONE

INTRODUCTION

Community colleges have been confronted with an increasingly competitive environment (Neuman & Courterier, 2001), a more diverse student population (Bragg, 2001), long-term financial concerns, (Guskin & Marcy, 2003), and increasing criticism of higher education effectiveness with external pressures for accountability (Burke, 2006; Dill, 1992). These trends have amplified the exigency on two-year college leaders and governing officials to discover innovative approaches to achieving their collective mission of providing access to quality and affordable higher education. Two-year colleges have traditionally responded to these challenges by offering a wide variety of programs, courses, and support services. However, these emerging trends insist that community colleges do more with less. Despite increased competition, the financial environment and conditions for many two-year colleges have resulted in reductions of high demand, costly programs and increases in tuition, potentially limiting access to higher education for those less able to afford the increases in the cost of education (Evelyn, 2004).

Institutional leaders at the two-year colleges must deliberate approaches wherein their institutions adapt to today's turbulent and rapidly changing environment. Adaptation and survival in this environment converges on the ability of the two-year institutions to not only perform, but to unleash its capacity to learn and comprehend the process by which it learns. Nonaka (1994) and Boisot (1998) argued that in times of rapid change and uncertainty, the ability of an organization to create and use knowledge is a major

source of enduring competitive advantage. They warned that whenever there is a shift in markets, technologies proliferate, competitors multiply, and products and services become obsolete quickly. The organizations that succeed are those that consistently create new knowledge, disseminate it widely throughout the organization, and promptly embody it into new products and services. DeGeus (1988, 1997) argued that organizations discover their future through their learning process. Knowledge-intensive industries that want to be competitive concentrate their energy on facilitating the collective learning of the organization (Stata, 1989). Revans (1980) concluded that organizations must learn at a rate that equals or exceeds the changes occurring in the environment in order to survive.

Statement of the Problem

The organizational performance orientation to change and reform has not alleviated public disparagement of higher education. Driven by accountability and assessment movements, institutions made substantial investments in technology and training to develop their capacity to collect information about performance, yet little information and knowledge on organizational learning for leadership and practice accrued from the data (Alexander, 2000; Gumport & Sporn, 1999; Radner, 1996; Sewall, 1996). Review of the literature from institutional theory revealed that these movements set in motion widespread isomorphism or unsustainable change often accompanied by an emphasis on the state or accrediting agency as the "customer" to be served (DiMaggio & Powell, 1983; Hanson, 2001; Scott, 1995; Tim McMahon, personal communication, June 5,

2008). Research concluded that the common denominator for failure in higher education institutions' change efforts to improve performance was the implementation of performance techniques without attention to the institutional culture (Birnbaum, 2000; Detert, Schroeder, & Mauriel, 2000; Petrides, 2002, 2004).

The organizational learning orientation to change and reform, though commonplace in business and industry, has seen less use in higher education. While learning and knowledge creation are the central work of higher education, colleges and universities are believed to lack the attributes needed for organizational learning (Kezar, 2005; Petrides, 2002, 2004). Garvin (1993) stated that higher education institutions have largely failed in organizational learning because they do not apply knowledge to their own activities. The Knight Higher Education Collaborative (2000) concluded that colleges and universities spend more time, effort and money than ever before in data collection but have not learned how to organize and use data effectively for internal decisions or public accountability that leads to sustainable change. Dowd (2005) argued that the accountability movement created a culture of evidence on community college campuses, with an emphasis on data collection driven by demands to report data to external agencies. Dowd suggested that community colleges create a culture of inquiry through data analysis processes with an emphasis on people as agents of change for the institution. She concluded that it is more important for institutions to understand what data will be collected, who will be involved in the interpretation, and how the results will be communicated and used than to merely submit data to reporting agencies. This shift

towards inquiry, interpretation, interaction, and communication signals that the study of the relationship of culture and organizational learning in higher education is necessary.

Overall, research studies in higher education demonstrated that the action of leaders and the nature of institutional culture were powerful influences on the organizational performance of colleges and universities (Cameron & Tschirhart, 1992; Smart, 2003; Winn & Cameron, 1998). The findings of Cameron and Ettington (1988), Smart and Hamm (1993), and Smart and St. John (1996) provided confirming evidence that the performance of colleges and universities was contingent upon the culture of the campus. However, organizational performance within the context of these studies was contained within the constructs of nine standard performance outcomes and not situated within a dynamic organizational performance system coupled with a complex social system that influenced the generation of outcomes.

Crossan and Bedrow (2003) suggested that an organization must first and foremost understand its process of learning before the efficacy of its learning can be evaluated. Understanding the processes by which an organization learns leads to an enhanced understanding of how to foster an environment for learning (Edmondson, 2002). While organizational learning as a theoretical construct has been studied in business (Boisot, 1998; DiBella, Nevis, & Gould, 1996; McGill, Slocum, & Lei, 1992, Nonaka, 1994;), governmental agencies (Crosson & Bedrow, 2003; Mahler, 1997; Moynihan, 2005;) and healthcare (Scott, Ruef, Mendel, & Caronna, 2000; Tucker, Edmondson, & Spear, 2002;), studies in higher education have been limited to advocating its usage and anecdotal studies (Kezar, 2005; Metcalfe, 2006; Petrides, 2002, 2004). The

Southern Association of Colleges and Schools and some state legislatures are using newer models for performance improvement like the Quality Enhancement Program and the Baldridge Model with potential components of organizational learning. Two studies were located that explored the learning capacity of institutions in higher education using newer assessment processes (Beard, 2005; Stewart, 2005). This limited research implies that the study of organizational learning has not permeated to any great extent organizations with learning as their core mission and competence.

Organizational learning is an approach to change and reform efforts in higher education (Bergquist, 1992; Boyce, 2003; Chaffee, 1985; Giraldo, 2005; Kezar, 2005; Petrides, 2004). What is not evident from the literature is the relationship of culture to change as a function of both organizational performance and learning systems of action. Most of the studies on organizational learning in higher education have been advocacy publications or case studies of special initiatives at institutions, with little or no empirical studies using constructs and reliable, validated instruments. This study added to the body of knowledge on the relationship of campus culture to both institutional performance and learning systems of action in the two-year college where the institution was viewed as a complex social system.

Purpose of the Study

The major purpose of this study was to investigate the campus culture and the institutional performance and learning subsystems in a two-year college located in South Carolina. More specifically, the purpose of this study included five major objectives: (a)

to investigate the cultural types of the institution; (b) to investigate the performance subsystem (exchange, production, coordination, and reinforcement actions); (c) to investigate the learning subsystem (environmental interface, action and reflection, dissemination and diffusion, and memory and meaning actions); (d) to determine if relationships exist among the cultural types, performance subsystems, and learning subsystems within the college; and (e) to determine if the cultural types are predictors of institutional performance and learning.

This study was aligned with the needs identified in organizational performance and learning research and challenged the approaches used in previous studies. The researcher investigated the relationships of cultural types with organizational performance and learning subsystems through the lens of the Competing Values Framework (Cameron & Quinn, 2006) and the Organizational Learning Systems Model (Schwandt & Marquardt, 2000) as the theoretical frameworks, adopting the view that knowledge was socially constructed. Moreover, institutional culture was viewed as a complex of cultural types instead of a dominant culture, and performance and learning were viewed as dynamic, interdependent, non-linear systems of action instead of outcomes and indicators.

Research Questions

The following research questions guided the study.

1. What are the perceived cultural types (clan, market, adhocracy, and hierarchy) in a selected two-year technical/community college?

2. What are the perceived institutional performance subsystems (exchange, production of programs and services, coordination, and reinforcement) in a selected two-year technical/community college?

3. What are the perceived institutional learning subsystems (environmental interface, action and reflection, dissemination and diffusion, and memory and meaning) in a selected two-year technical/community college?

4. Are there relationships between the cultural types and the institutional performance subsystems (exchange, production or programs and services, coordination, and reinforcement) in a selected two-year technical/community college?

5. Are there relationships between the cultural types and the institutional learning subsystems (environmental interface, action and reflection, dissemination and diffusion, and memory and meaning) in a selected two-year technical/community college?

6. Which cultural types are predictors of total institutional performance in a selected two-year technical/community college?

7. Which cultural types are predictors of total institutional learning in a selected two-year technical/community college?

Definitions of Terms

- *Adhocracy culture:* The organizational culture type that focuses on external positioning with an emphasis on flexibility and individuality (Cameron & Quinn, 2006).

- *Action and Reflection (Goal Attainment)*: The *learning subsystem* that creates knowledge from the new information produced by the environmental interface subsystem as the organization reflects on its actions and their results, dependent on the decision making processes of the organization and its ability to experiment and evaluate results. It is associated with the goal attainment function (Schwandt & Marquardt, 2000).

- *Clan culture:* The organizational culture type that focuses on internal maintenance with flexibility, concern for people and sensitively to employees and customers (Cameron & Quinn, 2006).

- *Coordination (Integration):* The *performance subsystem* responsible for linking human actions and skills with the requisite task and the standards of performance required in order to integrate separate acts into the collective effort (Schwandt & Marquardt, 2000).

- *Cultural complexity* refers to the extent to which multiple dominant culture types exist within the institution (Smart, 2003).

- *Cultural congruence* refers to the extent to which the culture reflected in the leadership category of the organization is consistent with the culture reflected in other categories of the organization (Cameron & Quinn, 2006).

- *Culture strength* refers to the power or preeminence of the culture type in affecting what happens in an organization (Cameron & Quinn, 2006).

- *Culture type* refers to the specific kind of culture that is reflected in the organization. The four types are clan, market, hierarchy, and adhocracy (Cameron & Quinn, 2006).

- *Dissemination and Diffusion (Integration)*: The *learning subsystem* that transfers information and knowledge among all the subsystems, including both formal and informal communication, dependent on structures in place and the ability to deliver information and knowledge to the persons who need to take action. It is associated with the integration function (Schwandt & Marquardt, 2000).

- *Environmental Interface (Adaption)*: The *learning subsystem* that responds to internal and external influences in the environment, determining through filtering the new information that enters the organization, supporting the ability of the organization to adapt. It is associated with the adaptation function (Schwandt & Marquardt, 2000).

- *Exchange (Adaptation):* The *performance subsystem* responsible for acquiring human and material resources necessary to respond to the needs of the organization as it achieves its goals (Schwandt & Marquardt, 2000).

- *Hierarchy culture:* The organizational culture type that focuses on internal maintenance with an emphasis on stability and control (Cameron & Quinn, 2006).

- *Market culture:* The organizational culture type that focuses on external positioning with an emphasis on stability and control (Cameron & Quinn, 2006).

- *Memory and Meaning (Latency):* The *learning subsystem* that provides the foundation for other subsystems by creating new values or sustaining existing ones, dependent upon the concept of shared understanding and the ability of the organization to make sense from new information with respect to its organizational memory. It is associated with the pattern maintenance or latency function (Schwandt & Marquardt, 2000).

- *Production/Service (Goal Attainment):* The *performance subsystem* responsible for the actions necessary to produce the goods and services or the organization or achieve a goal (Schwandt & Marquardt, 2000).

- *Reinforcement (Latency):* The *performance subsystem* responsible for the maintenance of quality standards and values that the organization utilizes to make judgments about its performance (Schwandt & Marquardt, 2000).

- *Total Learning:* The sum of the learning subsystem scores for environmental interface, action and reflection, dissemination and diffusion, and memory and meaning (Schwandt & Marquardt, 2000).

- *Total Performance:* The sum of the performance subsystem scores for exchange, production/service, coordination, and reinforcement (Schwandt & Marquardt, 2000).

Theoretical Framework

This study was grounded in the theoretical work of Talcott Parsons (1956, 1978) using Schwandt's (2000) Organizational Learning Systems Model and Quinn's (1988) Competing Values Framework. Parsons' work was extended to view the interaction of an organization's culture with organizational performance and learning actions. According to Kerlinger and Lee (2000), theories are tentative explanations. They are evaluated empirically to determine how well it relates to new findings. Theories can be used to guide research plans by generating testable hypotheses and to organize facts obtained from the testing.

Parsons' General Theory of Action

Parsons integrated the works of Weber, Pareto, Marshall, and Durkheim in his theory of action systems. Within the action system, individuals and collectives functioned within their roles to interact with their environment and with each other in creating change within the action system. Change within the system resulted from the interaction of the two processes of performance and learning. Parsons' action system considered change as a process that achieved goals and adapted through an interaction with its internal units and external entities. Achieving goals in the action system was related to performance while adapting in the action system was related to learning. Both processes of performance and learning were responsible for change (Parsons & Platt, 1973; Savage, 1981).

Parsons stated that the function of any system consisted of complex activities with actions focused on meeting the needs of the system which he analyzed along two dimensions. The first dimension focused on the situation and source of those needs with respect to the relevant external environment and its internal organization. The second dimension differentiated between needs whose purpose was the system's goals and those focused on the methods used to achieve the goals. Parsons defined the first dimension of *focus* as internal and external and the second dimension of *purpose* as means and ends, forming a matrix containing the four functional prerequisites illustrated in Figure 1.1. Every prerequisite must be present in any system of action in order for it to survive. The functional prerequisites were administered by four subsystems of action called adaptation, goal attainment, integration, and latency or pattern maintenance. *Adaptation*

was administered by the biological component enabling the system to adapt to the environment and to adapt the environment to its needs. It represented the orientation of a system to its external environment. *Goal attainment* was administered by the personality component of the system. It was the area for the definition of objectives and the mobilization of resources and energy necessary for achieving goals. It represented the external orientation of a system as it achieved goals consistent with information from the environment. Once the goals were defined, resources were made available and consumed in order to maximize the capacity of the system to achieve its goals and sustain its effective functioning. *Integration* was administered by the social system that created structure and established the boundaries of permissible action. It represented the internal function of coordination of all subsystems in order to obtain conformity and sustain functionality. This was accomplished through cooperation with the other subsystems and required adjustments by all units in order to sustain effectiveness. *Latency* or *pattern maintenance* was administered by the culture component and provided the actors with motivation and support for their actions through norms and values. It represented the internal tendency toward stability in the organization by maintaining behavior patterns and managing tensions, despite the existence of pressures to change. Moreover, pattern maintenance was the foundation system upon which all other systems ascribed meaning for action. In order for change to occur in an organization through performance and learning, all four functions must be present (Parsons, 1956; Parsons & Platt, 1973; Schwandt & Marquardt, 2000).

Classifying the functional prerequisites according to the internal-external and means-ends dichotomies resulted in the 4-cell paradigm in Figure 1.1. The table is read in clockwise order and referred to by the acronym *AGIL* (Parsons & Platt, 1973; Savage, 1981; Schwandt & Marquardt, 2000; Giraldo, 2005).

		P U R P O S E	
F O C U S		*MEANS*	*ENDS*
	EXTERNAL	*A* Adaptation	*G* Goal Attainment
	INTERNAL	*L* Pattern Maintenance/Latency	*I* Integration

Figure 1.1 **Parsons' General Theory of Action**
Taken from "Organizational Learning: From World-Class Theories to Global Best Practices" by D. R. Schwandt and M. J. Marquardt, 2000, p. 48. Copyright 2000 by CRC Press LLC. Adapted with permission of the author.

The Organizational Learning Systems Model

The Organizational Learning Systems Model (Schwandt & Marquardt, 2000) is a dynamic learning systems model extended from Parsons' social action system, providing a lens through which to understand organizational performance and learning in a social system. The action system of an organization is composed of actions of the individual, groups, or the organization, and can be viewed from the perspective of association only with performance, association only with learning, or association with both performance and learning. Change occurs through both performance and learning actions of the system of actions.

The system of action describing organizational performance and learning carries out the respective functions using different combinations of the same actions (Schwandt & Marquardt, 2000). For example, performance consists of the organizational acts associated with the production of an institutional effectiveness report. Likewise, learning consists of these same acts but augmented with the processes that create new information for the leadership concerning the processes used to judge the effectiveness of the institution. Working together, the two systems allow the institution to change and adapt to its environment.

Parsons claimed that changes in a social system were achieved through not only performance actions, but also through the process of learning. His work with the learning system was not as complete as the performance system. Schwandt and Marquardt (2000), describing an organization as a social system, extended Parsons' General Theory of Action to a learning system composed of subsystems carrying out Parsons' four functional prerequisites. These functions allowed the organization to (a) survive as a viable system of actions and to take actions different from the past; (b) to recognize if present actions were different from the past and to understand the reasons for the difference; (c) to allow the collective to retain its knowledge in organizational memory over a period of time; and (d) to ensure that knowledge was available to inform the actions of the entire organization. The performance and learning systems of the Organizational Learning Systems Model are each described as follows.

The Performance System

Performance consisted of behavior by which an organization disrupted or suspended its situation to a degree. The analysis of actions and their product normally required the use of a performance management system. The performance system was also dependent on four subsystems that were each responsible for accomplishing one of the four functional perquisite functions identified in Parsons' action system. The subsystems of the performance system are described as follows. The *production/service subsystem* incorporated all actions and processes required by the organization to produce goods and services or reach a goal. Traditionally the focus of management efforts, this subsystem included the application of knowledge, skills, and abilities to the processes of manufacturing, service, marketing, sales, procurement, research and development, management, finance, planning, and quality assurance. It provided the performance system with the goal attainment prerequisite function. The *coordination subsystem* linked human actions and skills with the requisite task and the standards of performance required in order to integrate separate acts into the collective effort. This subsystem included the actions associated with management control processes, job design, career development and training, and organizational development. It provided the performance system with the integration prerequisite function. The *reinforcement subsystem* contributed to the maintenance of standards and values that the organization utilized to make judgments about its performance. This subsystem included the actions associated with performance appraisals, rewards, compensation, quality standards, feedback,

mentoring, and coaching. It provided the performance system with the pattern

maintenance (latency) prerequisite function (Schwandt & Marquardt, 2000).
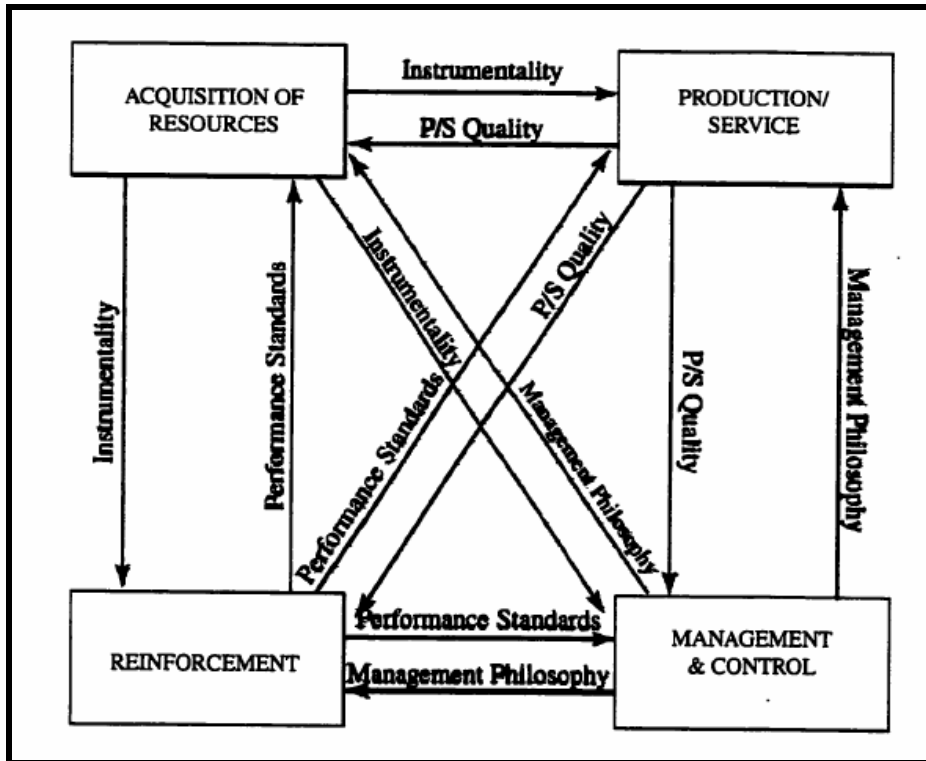
Figure 1.2 **Organizational Learning Systems Model – The Performance System**
Take from "A theoretical model of organizational learning and performing action
systems: The development and initial validation of a Parsonian action frame of reference
through confirmatory factor analysis" by C. G. Johnson, 2000, unpublished doctoral
dissertation, The George Washington University, p. 80. Copyright 2000 by author.
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The Learning System

Schwandt and Marquardt (2000) described four corresponding organizational learning

subsystems and labeled them environmental interface, action and reflection,

dissemination and diffusion, and meaning and memory. The *environmental interface*

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subsystem responded to internal and external influences in the environment, determining through input, filtering, and output the new information that entered the organization. It included such sources as surveys, annual reports, and environmental scanning reports. This action supported the ability of the organization to adapt. The *action and reflection subsystem* created knowledge from the new information produced by the environmental interface subsystem. Its actions represented routine operations, actions to achieve goals, or adaptive actions undertaken to meet new goals. New knowledge was created as the organization reflected on its actions and their results. The ability to create new knowledge was dependent on the decision making processes of the organization as well as the ability of the organization to experiment and evaluate results. The *dissemination and diffusion subsystem* transferred information and knowledge among all the subsystems, including formal and informal communication. The ability to deliver information and knowledge to the persons who needed to take action was critical to organizational learning and dependent on the structures in place, including organizational roles, policies, procedures, and group formation. The *memory and meaning subsystem* provided a foundation for other subsystems by creating new values or sustaining existing ones. This function was dependent upon the concept of shared understanding, which involved making sense out of new information with respect to its organizational memory. Organizational memory was manifested in documents, records, databases, routines, and the memories of people. Actions supporting this component included language, symbols, values, and assumptions.

Parsons' definitions of the interchanges between the four prerequisite functions were further extended in the Organizational Learning Systems Model in descriptions of

the media of interchange. These were dynamic forces which explained the interdependences of the subsystems. Each subsystem created one interchange as output, and each subsystem received input from the other three subsystems. The media of interchange for the learning system were new information, goal-referenced knowledge, structuring, and sense making correspondingly output by the subsystems environmental interface, action and reflection, integration, and memory and meaning. It was the interchanges that contributed to or detracted from organizational learning. Schwandt provided an example to illustrate this concept with the generation of an annual report. Lack of sufficient energy to reflect and act on the new information inhibited the ability of the organization to create new knowledge, limited information availability to the organization, or diminished the urgency to make sense of new information. Conversely, energy created by new information that was openly and purposefully used in reflection and action led to the need to make sense of the new information, the creation of new knowledge, and its distribution and use (Schwandt & Marquardt, 2000). The Organizational Learning Systems Model is provided in Figure 1.3.
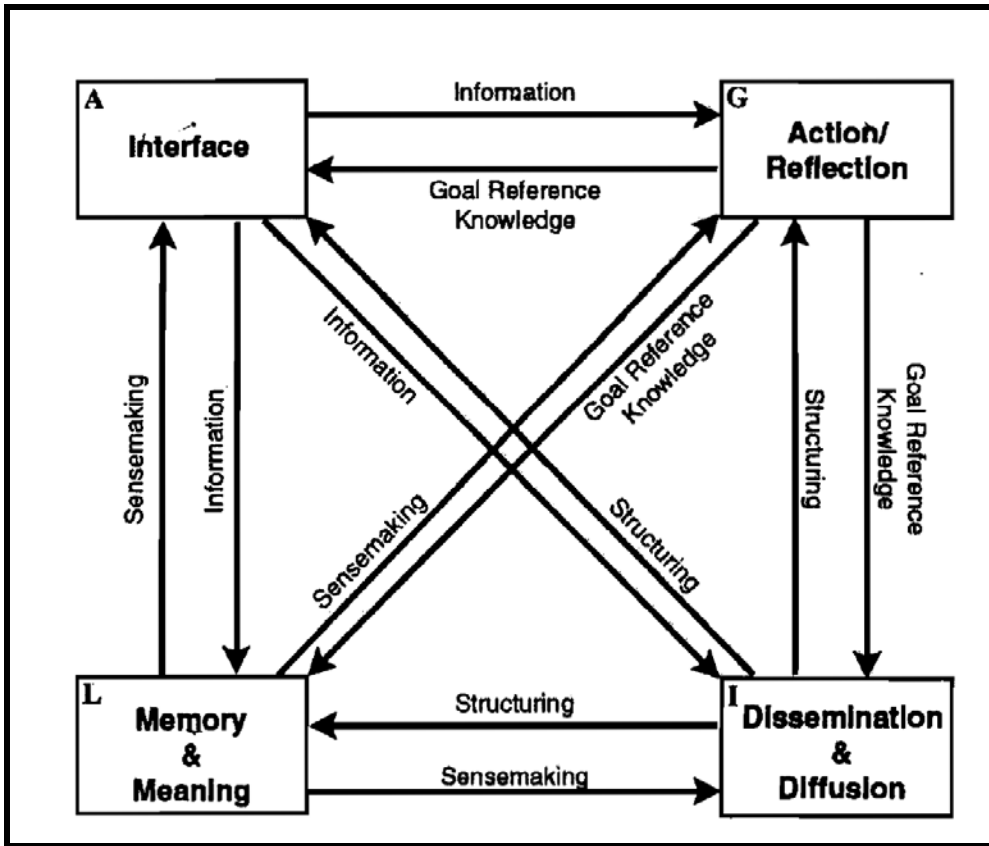
Figure 1.3 **Organizational Learning Systems Model – The Learning System**
Taken from "Organizational Learning: From World-Class Theories to Global Best
Practices" by D. R. Schwandt and M. J. Marquardt, 2000, p. 69. Copyright 2000 by
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    Schwandt's (2000) Organizational Learning Systems Model was selected for this

study because it adopted the social action perspective and conceptualized organizational

learning as information and knowledge processing systems (Johnson, 2000). This model

focused on patterns of actions that occurred within and between the four subsystems

interacting in a nonlinear manner and explained the capacity for collective performance

and learning actions.

The Competing Values Framework

The Competing Values Framework (Quinn, 1988) was derived from the Competing

Values Model (Quinn & Rohrbaugh, 1983) which examined the dimensions and values

that fortified organizational performance. The Competing Values Framework, like the

Organizational Learning Systems Model, was consistent with the framework of Talcott

Parsons. It was developed for organizational analysis with a focus on organizational

effectiveness, and was used to study leadership roles and effectiveness, organizational

culture, and human resource development in many types of organizations, including

higher education (Cameron & Freeman, 1991; Smart, 2003; Zammuto & Krakower,

1991).

The Competing Values Framework integrated four perspectives from

organizational theory literature traditionally regarded as mutually exclusive into a

framework that sought to both differentiate and integrate models of organizations and

their effectiveness (Quinn, Faerman, Thompson, & McGrath, 2003). The framework

conveyed the paradox that existed in ideas of effectiveness that superficially appeared as

simultaneously competing criteria. The first dimension was organizational *focus* which

distinguished organizations that had an internal emphasis on the development of people

from those that had an external focus on the development of the organization. The second

dimension was organizational *structure* which distinguished between organizations that

had an emphasis on stability and control from those that had an emphasis on flexibility

and innovation. The third dimension was organizational *means and ends* which

distinguished between organizations that emphasized processes such as planning and

establishing goals from those that emphasized resulting outcomes such as productivity

and efficiency. Graphically, it is illustrated in Figure 1.4 depicted in four quadrants

emphasizing competing values: focus (external versus internal) and structure (control

versus flexibility).

The three dimensions evaluated collectively revealed a four-quadrant model

identifying the four major models of organizational theory, with each quadrant

representing an ideal organization (Quinn & Rohrbaugh, 1983). Quinn (1988) argued that

models did not contain organizations, but rather organizations contained models. There

was evidence from research studies on cognitive and behavioral complexity that the more

effective leaders and organizations were able to balance conflicting demands, indicating

that high performance required the concurrent mastery of paradoxical capabilities (Detert,

Schroeder, & Mauriel, 2000; Smart, 2003). Each of the four models in the quadrants had

an implied means and ends theory as illustrated in Figure 1.4. The *human relations model*

emphasized flexibility with an internal focus, utilizing cohesion and morale as the

primary means for the ultimate end of developing human resources. The *open systems*

model emphasized flexibility with an external focus, utilizing adaptability and readiness

as the primary means for achieving the ends of growth, resource acquisition, and external

support. The *rational goal model* emphasized control with an external focus, utilizing

planning and goal setting as the primary means for achieving the ends of high

productivity and efficiency. The *internal process model* emphasized control with an

internal focus, utilizing the primary means of management and communication for

achieving the ends of stability, control, and order.

When the Competing Values Framework was applied to organizational culture, each quadrant yielded a different cultural type, emphasizing particular means and ends consistent with Parsons' four prerequisites functions. Cameron and Quinn (2006) stated that the Competing Values Framework was robust in explaining different orientations and competing values that characterized human behavior. Their research led to the identification of a culture type for each quadrant, representing the elements that comprised an organizational culture: assumptions, orientations, and values. The assumptions, orientations, and values of the human relations model reflected the *clan culture* focusing on internal maintenance with flexibility, concern for people and sensitively to employees and customers, and associated with Parsons' pattern maintenance functional prerequisite. The assumptions, orientations, and values of the open systems model reflected the *adhocracy culture* focusing on external positioning with an emphasis on flexibility and individuality, and associated with Parsons' adaptation functional prerequisite. The assumptions, orientations, and values of the rational goal model reflected the *market culture* focusing on external positioning with an emphasis on stability and control, and associated with Parsons' goal attainment functional prerequisite. The assumptions, orientations, and values of the internal process model reflected the *hierarchy culture* focusing on internal maintenance with an emphasis on stability and control, and associated with Parsons' integration functional prerequisite (Cameron & Ettington, 1988; Ouchi, 1980;; Parsons & Platt, 1973; Quinn, 1988; Quinn & Rohrbaugh, 1983; Wilkins & Ouchi, 1983).

The Competing Values Framework was selected for this study because it allowed for the study of contradictions and paradoxes to emerge. It proposed the idea that organizations were challenged by competing actions from which decisions were necessary. For example, a study of higher education institutions indicated that the most effective organizations were those that simultaneously emphasized innovation and change (the adhocracy culture) with stability and control (the hierarchy culture) (Cameron, 1986).

Flexibility and Discretion

Internal Focus and Integration	The Clan	The Adhocracy	External Focus and Differentiation
	The Hierarchy	The Market	

Stability and Control
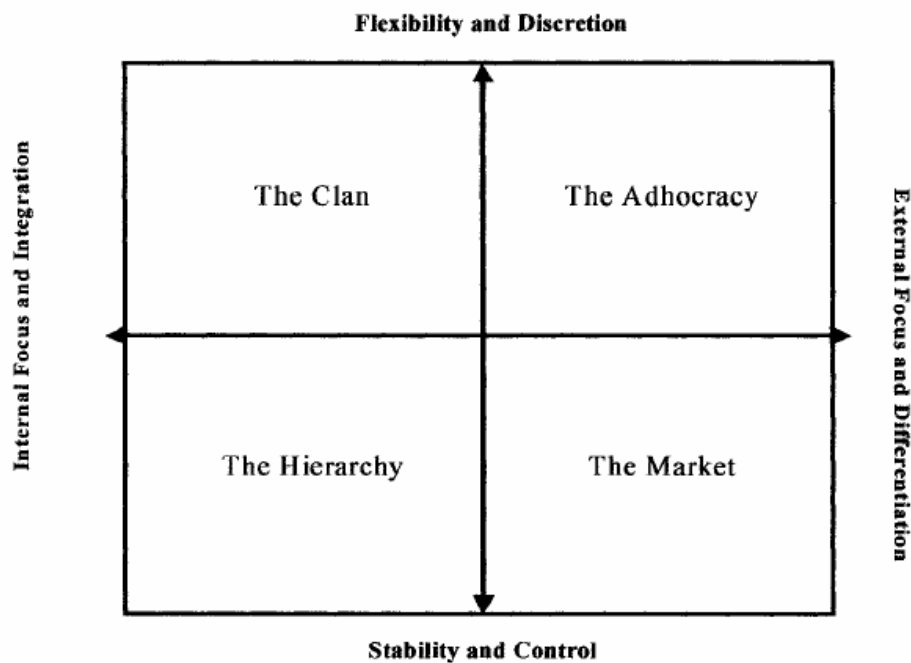
Figure 1.4 **The Competing Values Framework**
Taken from "Diagnosing and Changing Organizational Culture: Based on the Competing Values Framework" by K. S. Cameron and R. E. Quinn, 2006, p. 223. Copyright 2006 by John Wiley & Sons, Inc. Adapted with permission of the author.

Conceptual Framework

PROBLEM STATEMENT

```
┌──────────────────┐                    ┌──────────────────┐
│   Construct:     │─────────────────→  │   Construct:     │
│  Organizational  │                    │  Organizational  │
│     Culture      │                    │   Performance    │
└──────────────────┘                    └──────────────────┘

                                        ┌──────────────────┐
                                        │   Construct:     │
                                        │  Organizational  │
                                        │    Learning      │
                                        └──────────────────┘
```

RESEARCH QUESTIONS

```
┌─────────────────┐        ┌──────────────────────────────┐
│                 │        │  Organizational Learning     │
│   Competing     │        │     Systems Model:           │      ┌ ─ ─ ─ ─ ─ ┐
│    Values       │        │                              │        Total
│  Framework:     │        │  Performance Subsystems      │ ─ ─→ │ Performance │
│                 │───────→│   • Exchange                 │
│  Cultural Types │        │   • Production/Service       │      └ ─ ─ ─ ─ ─ ┘
│   • Clan        │        │   • Coordination             │
│   • Adhocracy   │        │   • Reinforcement            │
│   • Market      │        └──────────────────────────────┘
│   • Hierarchy   │        ┌──────────────────────────────┐
│                 │        │  Organizational Learning     │
│                 │        │     Systems Model:           │      ┌ ─ ─ ─ ─ ─ ┐
│                 │───────→│                              │        Total
└─────────────────┘        │  Learning Subsystems         │ ─ ─→ │  Learning   │
                           │   • Environmental Interface  │
                           │   • Action and Reflection    │      └ ─ ─ ─ ─ ─ ┘
                           │   • Dissemination and Diffusion │
                           │   • Memory and Meaning       │
                           └──────────────────────────────┘
```

Figure 1.5 **Conceptual Framework**

Parsons' general theory of action provided a conceptual framework for the

analysis of human behavior. Within the framework, the unit act was the smallest unit of

reference, the most basic form of human action, and the foundation for larger systems of

action. The four basic elements of the unit act, constituting the basis of all social action, were (a) an actor, (b) a goal toward which the action was oriented, (c) a situation that included the means of achieving the goal and under control of the actor and the condition which the actor cannot control in the process of achieving the goal, and (d) a normative orientation that was based on the norms and values of the actor and that guide behavior. When there were two or more actors, unit acts were organized into interactions that comprised social action (Parsons, 1956; Parsons & Platt, 1973).

Within the context of this study, the *organization* was a collection of actors within a selected two-year technical/community college in search of change (the *situation*) through the *goals* of performance and learning. The actions of the organization were directed by its values, belief, and assumptions, the components of organizational culture. The *culture* determined the preferred *means* for performing and learning. The adhocracy culture emphasized innovation. The market culture preferred actions associated with competition and achievement. The clan culture focused on the development of human resources. The hierarchy culture preferred efficiency and control (Cameron & Quinn, 2006). The other elements of the situation of the organization were those *conditions* that the organization did not control, such as the environmental forces that influenced and limited its actions. In order to survive, the organization needed values, beliefs, and assumptions that enabled it to work towards the goals of performance and learning in a manner that ensured its relevance to the broader system of action in achieving its mission.

The four culture types of clan, market, adhocracy and hierarchy in the Competing Values Framework represented the independent variable of the study. They described

competing sets of assumptions that guided the choices of the organization regarding its actions. The set of assumptions for each culture type formed coherent patterns and constituted a distinct culture (Schein, 2004). Culture in this framework was profiled by type, strength, congruence with organizational practices, and complexity.

The four functions of organizational performance were identified as subsystems and represented by the variables exchange, production, coordination, and reinforcement. All four of these subsystems of the Organizational Learning Systems Model must be present in organizations for change to occur.

The four functions of organizational learning were identified as subsystems and represented by the variables environmental interface, action and reflection, dissemination and diffusion, and memory and meaning. All four of these subsystems of the Organizational Learning Systems Model must be present in organizations for change to occur.

Organizational culture contained the mechanisms that established the criteria for the judgment, selection, focus, and control of individual and group actions within the performance and learning subsystems. People as actors in the system chose where they placed their emphasis in the functions of the performance and learning based on the assumptions of their culture.

The main purpose of the study guided by these frameworks was to investigate the relationship of the organizational cultural types with the organizational performance and learning subsystems in a selected two-year technical/community college.

<u>Significance of the Study</u>

This study investigated the relationship of cultural types to institutional performance and learning subsystems. Because organizational culture informs the interpretation of ambiguities, uncertain technologies, problem situations, and vague linkages between problems and solutions, it was useful to consider ways in which organizational culture guided actions associated with institutional performance and learning. Organizational culture provided a repository of meaning against which performance data, results, and experiences were interpreted and inquiries about change in programs and services emerged. The more ambiguous the data or technologies, the more influence the culture of the organization was likely to have in shaping both the action and the course of learning and knowledge creation. Though culture is most often seen as a source of resistance (Schein, 2004) or defensiveness (Argyris, 1993) to learning and change, leaders should consider its creative potential as a basis for the interpretation of experiences that foster learning and the emergence of innovative solutions. While it is interesting to find an explanation for the influence of culture on performance and learning, it is equally valuable to understand how culture diminishes the ability for an organization to enhance its performance and learning capabilities.

Culture has been identified by both researchers and practitioners as the common determinant of the success or failure of efforts to change and reform (Birnbaum, 2000; Cameron & Quinn, 2006; Moynihan, 2005; Smart, 2003; Smart & Hamm, 1993; Smart & St. John, 1996; Zammuto & Krakower, 1991). Studying the relationship of culture to institutional performance and learning was significant for research, leadership, and

practice in the two-year college where over half of the higher education student population is enrolled.

While the higher education literature provided an abundance of performance research with linkage to culture, most of the literature in higher education related to organizational learning was classified as advocacy and anecdotal. Until more research is conducted, higher education leaders will need to reference the literature from business and nonprofit studies for guidance in fostering organizational learning, or look to individual units and groups that are beginning to enable organizational learning, like libraries, information technology, and institutional research offices. Nonetheless, research is needed within higher education on the influence of campus culture on institutional performance and learning because of its environment that includes loosely coupled systems, professional bureaucracies, long-term employees, and tenure as unique elements in education that may affect how learning occurs (Kezar, 2005).

From a research perspective, this study confirmed the use of the *Organizational Action Survey* (Johnson & Schwandt, 1998) and the *Organizational Culture Assessment Instrument* (Cameron & Quinn, 2006) as a valid methodology for measuring culture, performance, and learning in a two-year college and demonstrated the effective application of the Competing Values Framework and the Organizational Learning Systems Model in investigating the relationship of these constructs in higher education. It added knowledge to the literature about the influence of cultural complexity on organizational performance and learning actions from a socially constructed perspective. It also provided additional research opportunities for studying change and reform through

both performance and learning orientations for the two-year college. Research about organizational performance and learning in higher education in the two-year college is ultimately about building the capacity to improve student and institutional success.

From a practice perspective, this study was significant because it revealed an understanding of the influence of culture on choices made by the institution and its members. It also highlighted the need to shift from a culture of evident to a culture of research by fostering a learning environment through the acquisition of new information, analyzing information and managing it, and creating actionable knowledge for sustainable change. The critical elements for research success were bringing people together in deliberate processes with real objectives at stake, providing them with access to information and knowledge, and supporting them with the structures needed to evaluate results and make informed decisions a safe environment of inquiry.

From a leadership perspective, the study unveiled leadership as an ongoing process of public learning. Schein (2004) argued that the only important action of leaders was to create and manage culture. The implications for leadership based on the findings from the study suggested the necessity of developing the learning capacity to simultaneously incorporate competing viewpoints into discussions which enable the institution to discover innovative processes that exploit and explore opportunities to satisfy the needs of political, market, and academic stakeholders.

Delimitations

This study was delimited by the investigation of the constructs of organizational

performance and learning with the view that knowledge was socially constructed. The

culture construct was examined within the functionalist perspective which treated culture

as a variable.

The study was also bounded by specific conditions present in a selected two-year

technical/community college in a small geographic region. The institution was in the

process of assessing its readiness for change under a new leadership. The scope was

narrowed in order to contribute to an on-going study of institutional culture and service

quality at the College for the new leadership team.

Organization of the Study

This concludes the introductory chapter of the dissertation which included a discussion of

the research questions, the significance of the research, and a general plan of how the

research was operationalized. The remainder of the study is presented in the following

four chapters. Chapter Two provides a review of the literature related to the theoretical

foundations of the study – Schwandt and Marquardt's Organizational Learning Systems

Model and Cameron and Quinn's Competing Values Framework, including theories and

empirical studies to provide support for the constructs in the research study and the

hypothesized relationships among the constructs, using studies from higher education

where possible. Chapter Three discusses the research methodology, design,

instrumentation, data collection, and data analysis procedures used in the research study

in order to answer the research questions. Chapter Four presents the results of the

research findings in chronological order by the research questions. The study concludes

with Chapter Five by providing interpretations and conclusions of the findings.

Moreover, conclusions and suggestions for future research are presented in the final

chapter.

CHAPTER TWO

REVIEW OF THE LITERATURE

The purpose of this Chapter was to examine the theoretical relationship of organizational culture, performance, and learning, emphasizing where possible studies that used a quantitative research methodology from higher education. In quantitative research, the literature review provides direction for the research questions, serving as the basis for comparing and contrasting the findings from research (Creswell, 2003). The relevant literature was delimited by focusing on theories and empirical studies related to the three constructs of *organizational culture*, *performance*, and *learning* used in this study, and the influence of culture on the actions associated with change through systems of performance and learning.

Traditional scholarship presented colleges and universities as complex organizations viewed at the system or organizational level, many with an emphasis on institutional performance and effectiveness (Birnbaum, 1988; Cameron, 1978, 1984; Chaffee, 1984, 1985; Chaffee & Tierney, 1988; Dill, 1982; DiMaggio & Powell, 1983; Etzioni, 1964; Peterson, 1991). The system level perspective of colleges and universities provided a framework for differentiating between higher education institutions and businesses, a critical distinction since the accountability movement called for higher education to become more business-like in its practices. The organizational level perspective of colleges and universities provided a cultural framework for viewing the four traditional decision making models of colleges and universities. A subsequent view of higher education institutions as complex organizations viewed at the

interorganizational level presented colleges and universities cybernetically as innovations, with an emphasis on organizational learning (Birnbaum, 1988). The interorganizational perspective of colleges and universities provided a framework for viewing a model of higher education institutions that combined the traditional models and incorporated the principles of organizational learning. This case study of institutional culture, performance, and learning in a two-year technical/community college used the traditional models of institutional governance and culture with the principles of organizational performance and learning as a system of actions leading to institutional change and adaptation.

This Chapter begins with an epistemological perspective on change from the theoretical perspectives of institutional theory, culture, and organizational learning. The Chapter continues with a systems perspective of higher education underscoring the differences between the higher education and business industries. The systems perspective is followed by a review of the literature on organizational culture and the theories and empirical studies related to this research study. Next, a review of the literature on organizational performance is presented with theories that focus on the performance orientation of the Organizational Learning Systems Model and empirical studies that support the four performance subsystems of the model. The Chapter continues with the literature review of the concept of organizational learning and the theories and empirical studies related to the four learning subsystems of the model. It concludes with a review of the literature on the linkage between the constructs of culture and organizational performance and learning.

Epistemological Perspectives of Organizational Change

In the process of understanding educational change, James March (1999) argued that organizations can either learn to be intelligent and avoid costly errors in serving the goals of their constituencies or be senseless and irrational in pursuing courses that seem intelligent at the moment but repeatedly lead to blunders. He defined an intelligent organization as "one that adopts procedures that consistently do well (in the organization's own terms) in the face of constraints" (p. 1). March argued that intelligence was seen in the actions of the organization.

Colleges and universities are increasingly pressured to change and reform by their multiple constituencies: the public marketplace, governmental agencies, accrediting agencies, to name a few (Burke, 2006; Dill, 1992). A better understanding of March's argument of how an educational institution changes when faced with external forces and internal pressures was found in the evolution of organizational theory by linking together critical ideas of performance, learning, and culture from institutional theory, organizational learning, and organizational culture.

Perspective of Change through Institutional Theory

Institutional theory concentrated on the flexible aspects of social structure and the processes by which these structures become the authority for social behavior. Institutional theory researchers investigated how social structures were created, diffused, adopted, and adapted over time as well as how they descended into decline and disuse. Although the subject matter was stability and order in social life, researchers concentrated not only on

conformity in organizations but also on change in social structures (Giddens, 1979;

Marion, 2002; Schein, 1996, 2004; Scott, 1995). Institutional theory assisted in

understanding the constraints that made change difficult in educational institutions and

discovering the conditions where change could emerge. It represented a body of

knowledge that identified and explored the forces that hindered organizations from

changing. For educational institutions, the result was a greater perception of why

institutions were isomorphic and frequently gave the appearance of changing without the

reality of changing (Birnbaum, 2000; DiMaggio & Powell, 1983; Westphal, Gulati, &

Shortell, 1997).

The study of organizational change through the lens of institutional theory

broadened from its early focus on the diffusion of top-down models to explain increased

conformity and isomorphism. The1960s ushered in a view of institutions as open systems

which interacted with their internal and external environments (Katz & Kahn, 1978;

Scott, 1995). This open systems model portrayed organizations as inextricably connected

to their external environments. It brought an awareness of their organizational field

(DiMaggio & Powell, 1983; Scott, Ruef, Mendel, & Caronna, 2000) and the internal

pressure to develop connectedness to the organizations in the field (DiMaggio & Powell,

1983; Lewin, 1951).

An organization required the perception of legitimacy in order to receive public

support. Institutionalism was the process by which organizations achieved legitimacy

(Human & Provan, 2000). Sources of organizational legitimacy included rules for

standards of behavior, educational achievements, professional associations, accrediting

agencies, fads and images. These sources of legitimacy were socially constructed rather than being actual reality. To be without credentials from socially constructed sources connoted non-legitimacy of an organization (Scott, 1995).

DiMaggio and Powell (1983) identified three sources of isomorphic pressure for legitimacy to explain institutional responses to constraints: coercive pressure (March & Olsen, 1989), mimicry pressure (DiMaggio & Powell, 1983; Stinchcombe, 1965), and normative pressure (Zucker, 1983, 1988). Meyer, Scott, and Deal (1992) further explained that organizations existed within two environments: a *technical* environment in which products and services were exchanged and an *institutional* environment in which isomorphic pressures existed and from which legitimacy was received through conformity. Organizations buffered themselves from the technical environment by filtering undesirable input. Contrastingly, there was no buffering from the institutional environment. One hypothesis of institutional theory was that early adopters of innovations adapted to the environment for technical reasons while late adopters reacted for institutional reasons. In a quantitative study of over 2700 hospitals in the United States regarding the implementation of administrative innovations like total quality management and the consequences of efficiency and legitimacy, Westphal, Gulati, and Shortell (1997) found early adopters customized innovative practices for gains in efficiency and effectiveness and demonstrated change through performance improvements. Conversely, the late adopters gained legitimacy for the organization but failed to show performance results.

Scott (1995) argued through his Pillars framework for institutional theory that organizations had three common structures and activities that provided stability and meaning to social behavior: cognitive (DiMaggio & Powell, 1983; Douglas, 1986; Zucker, 1977), normative (Parsons, 1956, 1978; Selznick, 1949), and regulative (Moe, 1984; North, 1990). Although institutions were composed of combinations of these three pillars, they varied among themselves and over time with respect to their dominant pillar.

Perspective of Change through Organizational Learning

Organizational learning referred to the capacity of organizations to change themselves in response to experiences about how organizations monitored their operations, results, environment, and stakeholders for clues about the sufficiency of their performance. The nucleus of organizational learning was the approach organizations used to identify situations as problems and the way they attempted to correct them (Mahler, 1997). Organizations that embraced learning did not ignore the consequences of their actions, shift the blame for failures, undermine the detection of errors, or redefine success (Argyris, 1993). Organizations with learning goals as well as performance goals endeavored to understand their errors and its sources and change their rules, strategies, structures, routines, technologies and goals in order to achieve their mission and purpose. Not all change was learning, but learning was believed to be a knowledgeable and effective type of change. Learning represented a conscious effort to interpret and analyze data and information in order to rectify problems rather than blindly reacting to crises or adopting the latest management fad (Birnbaum, 2000; Mahler, 1997).

The concept that an organization was capable of learning in ways that were independent of the individuals within the organization was a breakthrough event in organizational learning theory development. Cyert and March (1963) proposed a foundational theory of organizational learning that emphasized the role of rules, procedures, and routines in response to external pressures with their adoption dependent on whether or not they led to positive consequences for the organization. Through their behavioral theory of the firm, they argued that organizations learned by memorizing disturbances and combinations of reactions to disturbances. By learning new combinations of external disturbances and internal decision making rules, the organization increased its adaptability to different environmental states. They concluded that any decision leading to a non-preferred state was less likely to be used in the future (Easterby-Smith & Lyles, 2000).

Argyris and Schön (1978) argued that the Cyert and March model ignored the fact that human behavior did not always follow rationality, and both individuals and organizations sought protection from unpleasant experiences of learning by establishing defensive routines. Argyris (1993), Schön (1983, 1987) and Argyris and Schön (1974, 1978) emphasized the necessity of studying the relationship between espoused theory and theory-in-use when assessing effectiveness. Their action science framework for organizational learning emphasized the assessment of behavior patterns as well as belief systems in the study of organizational effectiveness. They claimed that organizational practices that supported free and informed choice, valid information, and internal commitment (Model II) were more likely to be effective than those that emphasized goal

attainment and rationality (Model I). They argued that rational strategic action led to processes that prevented an organization from addressing the inadvertent consequences of previous choices unless leaders were open to testing their knowledge claims and learning about the unplanned consequences of their actions (Habermas, 1984). They concluded that organizational effectiveness was higher in organizations where there was congruence between their espoused values and actual practices than in organizations that had internal inconsistencies between espoused viewpoints and actual practices. Argyris and Schön (1978, 1996) defined single loop learning as the conventional form of learning associated with performance management and total quality management/continuous improvement found in Model I organizations. Contrastingly, they defined double-loop learning as learning associated with the creation of actionable knowledge that led to visible organizational changes found in Model II organizations. Model I organizations were identified as inhibitors of double-loop learning (Dick & Dalmau, 1999).

Other research contributing to the foundational works in organizational learning included interpretative adaptation to the environment (Daft & Weick, 1984), approaches to organizational learning and the examination of organizational learning as a complex social phenomenon (Shrivastava, 1983), cognitive and behavioral changes (Fiol & Lyles, 1985), variables relating organizational learning to the environment (Hedburg, 1981), and organizational transformation and learning cycles (Lundberg, 1989).

Easterby-Smith and Lyles (2000) chronicled that the most popularizing event in the study of organizational learning was a 1991 special edition publication of Organizational Science from which two traditions of organizational learning research

arose. The majority of the articles set the research agenda for organizational learning, suggesting that it was desirable to maximize the efficient use of knowledge in organizations while recognizing that there were significant human obstacles (Huber, 1991; March, 1991; Simon, 1991). The alternative view regarded social processes of organizational learning as dominant (Brown & Druid, 1991) with research in the areas of situated learning (Lave & Wenger, 1991), communities of practice (Wenger, 1998; Wenger & Snyder, 2000), and social construction of knowledge (Nicolini & Meznar, 1995).

Organizational learning involved acquiring new knowledge by either creating it or imitating the best practices of others. While imitation was an easier approach to acquiring knowledge, it provided less competitive advantage since the competitive advantage remained with the originator. Acquiring new knowledge alone, however, was not sufficient for organizational learning. It must be accessible to other members of the organization, and applied effectively toward taking actions by the organization (Crosson, Lane, & White, 1999; Huber, 1991; Petrides, 2004; Schwandt & Marquardt, 2000; Yukl, 2002).

Perspective of Change through Culture Theory

The evolution of a culture was a means by which an organization preserved its integrity and autonomy, differentiated itself from its population, and provided an identity. Human systems attempted to maintain equilibrium and to maximize their autonomy against the environment. Adaptation, growth, and survival involved maintaining the integrity of the

organization when faced with an environment that instigated degrees of disequilibrium. Cognitive structures like values, beliefs, and assumptions that were contained in an organizational culture organized the buildup of environmental inducements and provided predictability, stability, and meaning to the individual and the organization. (Bolman & Deal, 2003; Cameron & Quinn, 2006; Denison, 1990; Lewin, 1951; Marion, 2002; Schein, 2004; Schein & Bennis, 1965).

Kurt Lewin (1951) theorized a three stage force-field model of change that required the replacement or rejection of prior learning. Schein (2004) modified the unfreeze-change-refreeze model to provide a more comprehensive model of change called a cognitive redefinition approach. The *unfreezing* stage of change focused on the motivation to change, requiring either the addition of new forces for change or removal of factors that were perpetuating the existing behavior. Schein (2004) added three sub-processes that were relevant to motivation to change: (a) the disconfirmation of new information sub-process which presented conditions that led to dissatisfaction, (b) the survival anxiety sub-process which occurred when previous beliefs were seen as invalid yet insufficient to prompt change to occur, and (c) the learning anxiety sub-process which instigated resistance to change and the emergence of defensive routines caused by the uncertainty associated with unlearning. To progress with change, these three anxieties had to be resolved. The *change* stage focused on movement to an envisioned state. This stage was reached when there was sufficient dissatisfaction with the current conditions and the desire to change existed, accompanied by explicit view of what needed to be changed. Schein (2004) called this stage cognitive restructuring in which the change

process either proceeded along the path of new learning by scanning the environment or imitated the practices or associated role models of others. *Refreezing* was the final stage in which new behavior was achieved through development of new self-concepts and establishment of new interpersonal relationships. Schein (2004) explained that refreezing was necessary in order to reinforce the new behavior and cognitions, and was evident when confirming data was produced once again.

<div align="center">Higher Education and Business Differences</div>

American colleges and universities are simultaneously viewed as both poorly run and highly effective (Birnbaum, 1988; Yukl, 2002). These paradoxical views of higher education can be better understood when the differences between the higher education and business are explained at the system level through the concept of governance. Governance refers to the structures and processes through which participants in an institution interact with and influence each other and communicate with the larger environment (Baldridge, Curtis, Eker, & Riley, 1977; Birnbaum, 1988; Peterson, 1991; Smart, 2003).

Higher education as an industry consists of institutions that are complex organizations (Peterson, 1991). Like other industries, colleges and universities have goals, structures, leaders, decision making processes, policies, and administrative functions that conduct routine business. Colleges and universities also have distinguishing characteristics that affect their decision making processes and how they work and perform. Collectively, colleges and universities have *ambiguous goals* that are

often strongly contested (Gross & Grambsch, 1974). They are people-oriented organizations that *serve clients* who have a voice in the decision making process. Because they serve clients with disparate needs, their *technologies are problematic*. Unlike a business organization where unskilled, skilled, and white collar workers are productively integrated in creating a product without relying significantly on professional expertise, higher education workers are involved in the production of a whole person who cannot be segmented into parts. The production functions of education are teaching, research, and service. Serving clients in the three functions of education is difficult to accomplish and the results are difficult to evaluate. Institutions are *professional organizations* where employees expect a measure of control over decision processes. In higher education, there is a dualism of controls with faculty responsible for teaching, research, and service while administrators are responsible for supporting teaching, research, and service. The two control systems are not only structurally separate but are based on different systems of authority. Professional authority is predicated on autonomy and individual knowledge while administrative authority is based on control and coordination of activities (Etzioni, 1964; Scott, 1995). Professional employees demand autonomy, have divided loyalties between the institution and their discipline, experience tension between professional values and institutional expectations, have tenured employment status and exercise academic freedom, and demand peer evaluations for judging their performance. The degree of autonomy an organization has against its environment determines how it will be managed. Professional organizations that are insulated from the pressures of their environments witness the professional values, norms, and work definitions playing a

dominant role in the shaping of the institutions. When strong external pressure is applied

to colleges and universities, the autonomy of the professional is reduced, with faculty and

administrators losing some control of over the curriculum, their goals, and the operation

of the institution. Colleges and universities are not entirely confined by their

environments, but as the vulnerability increases, their decision making patterns change

also (Baldridge, Curtis, Eker, & Riley, 1977; Birnbaum, 1988; Etzioni, 1964; Scott,

1995).

Organizational Culture

The concept of culture has its roots in anthropology. However, few theorists have tried to

apply anthropological theories of culture into organization theory (Hendry, 1999; Schein,

2004). Hendry (1999) explained that organizations, unlike societies, were bounded,

purposive, and intentionally structured. This section of the review of the literature was

limited to cultural theory and empirical research as it related to the culture in

organizations.

Interest in the study of organizational culture, performance, and learning was

fueled by claims of prominent researchers and practitioners that higher education was in

need of change and reform (Burke, 2006; Dill, 1992; Green, 2006; Massey, 1996;

Metcalfe, 2006; Milam, 2006; National Commission on Excellence in Education, 1983;

Spellings Commission, 2006). Organizational culture was promoted as an essential

construct in efforts to improve managerial and organizational performance (Cameron &

Quinn, 2006; Deal & Kennedy, 1982; Ouchi, 1981; Peters & Waterman, 1982; Smart,

2003). Schein (2004) explained that organizational culture in contemporary research about the performance of organizations resulted from its capacity to solve the fundamental organizational problem of (a) survival in and adaptation to the external environment and (b) integration of internal processes to insure the capacity existed to adapt and survive. Schein (2004) also explained that the types of cultures or subcultures in an organization influenced organizational learning. He offered that the executive, engineering and operational cultures in an organization had different views of knowledge and how it was used. According to Schein, incongruence between the three culture levels was a barrier to the ability of an organization to learn.

In this study, organizational culture was defined by the classification of four cultural types within the Competing Values Framework with each culture associated with a contemporary organizational model (Cameron & Quinn, 2006). Organizational performance and learning were defined by the four functions of adaptation, goal attainment, integration, and latency, with actions associated with each of the functions for both performance and learning (Schwandt & Marquardt, 2000). Both the Competing Values Framework and the Organizational Learning Systems Model were based on the Parsons' (1956) social action theory. For this study, the sociological perspective of culture was adopted which directed the literature review on this variable.

Theories Related to Organizational Culture

Schein's Levels of Culture

Schein (2004) proposed a cultural model that consisted of three dimensions within the organization in decreasing order of visibility to the observer: (a) artifacts, (b) values, and (c) basic assumptions. He defined culture as

> a pattern of shared basic assumptions that was learned by a group as it
>
> solved its problems of external adaptation and internal integration, that has
>
> worked well enough to be considered valid and, therefore, to be taught to
>
> the new members as the correct way to perceive, think, and feel in relation
>
> to those problems (Schein, 2004, p. 17).

Schein's definition of culture contained explicit references to Parsons' functional prerequisites of adaptation, integration, and pattern maintenance and implicit reference to Parsons' functional prerequisite of goal attainment in the way it discussed problem solving through action and reflection.

Knowledge about culture has been a valuable tool for leaders of an organization because of their role as the most influential members in the creation and transmission of culture. Schein (2004) argued that culture was the most important function of leadership. Schein (1996) proposed that organizations possessed three occupational subcultures and that alignment of these subcultures was the key to an organization's ability to learning. The three leadership subcultures were operators, engineers, and executives.

Denison' Theory of Organizational Culture and Effectiveness

Denison and Mishra (1995) identified four functions of culture that addressed the pressures faced by organizations in integrating competing functions. The *consistency* function had an internal focus toward stability and control that emphasized shared meaning in order to increase the organization's capacity for internal integration while improving decision making processes through the promotion of consensus. The *mission* function had an external focus toward stability and control that emphasized a shared purpose in order to provide clarity and direction while motivating the membership to work toward the goals of the organization. The *involvement* function had an internal focus toward change and flexibility that emphasized high levels of participation by the membership that fostered increased commitment to the organization. The *adaptability* function had an external focus to change and flexibility that emphasized basic assumptions, values, and norms to support the organization's capacity to respond to its environment in order to grow and improve its performance.

The definitions of Denison's four cultural functions demonstrated a close relationship to the four functional prerequisites in Parsons' general theory of action and the four subsystems of action in Schwandt's model for organizational learning.

The Competing Values Framework

The concept of organizational culture has been studied in higher education, especially as it related to the perception of governance in colleges and universities (Clark, 1972; Dill, 1982; Masland, 1985). Quinn and Rohrbaugh (1983) developed the

Competing Values Framework to identify the values that were central to organizational effectiveness, focusing on competing values along the two dimensions of focus and structure. Focus referred to an internal and external emphasis while structure referred to a stability and control emphasis. The two dimensional typology of organizational cultures proposed by Cameron and Ettington (1988) is illustrated in Figure 2.1.
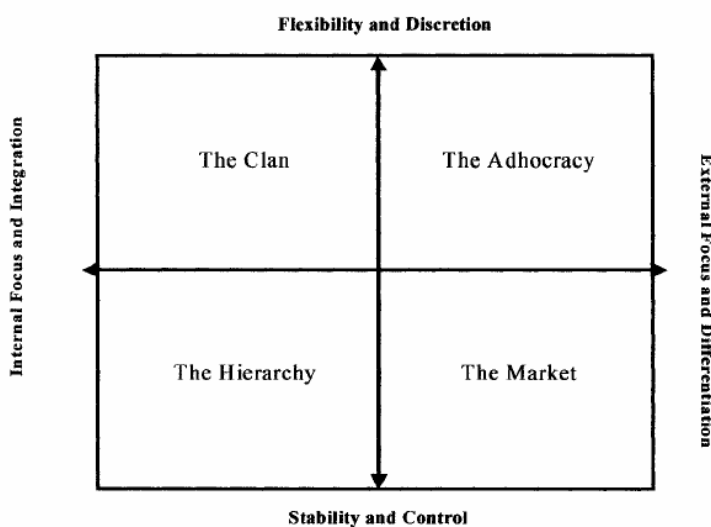
Flexibility and Discretion

| Internal Focus and Integration | The Clan | The Adhocracy | External Focus and Differentiation |
| | The Hierarchy | The Market | |

Stability and Control

Figure 2.1 **The Competing Values Framework**
Taken from "Diagnosing and Changing Organizational Culture: Based on the Competing Values Framework" by K. S. Cameron and R. E. Quinn, 2006, p. 223. Copyright 2006 by John Wiley & Sons, Inc. Adapted with permission of the author.

As shown in Figure 2.1, the Competing Values Framework had two dimensions. The vertical dimension (structure) differentiated effectiveness criteria that emphasized flexibility, discretion, and dynamism from criteria that emphasized stability, order, and control. In other words, some organizations were viewed as effective if they were changing and adaptable while other organizations were viewed as effective if they were

stable and predictable. Organizations whose product and structure remained in place for a long period of time were viewed by the former characteristics while organizations like higher education and government agencies were viewed by the latter characteristics. The continuum of this dimension ranged from organizational versatility and pliability on one end to organizational steadiness and durability on the other end.

The horizontal dimension (focus) differentiated effectiveness criteria that emphasized internal orientation, integration, and unity from criteria that emphasized external orientation, distinctiveness, and competition. Therefore, some organizations were viewed as effective if they had harmonious internal characteristics. Other organizations were determined to be effective if they focused on interacting or competing with organizations outside their boundaries. The continuum for this dimension ranged from organizational cohesion and consonance on one end to organizational separation and independence on the other end.

When applied to organizational culture, the two dimensional framework represented four ideal culture types that were consistent with the literature on organizational culture (Zammuto & Krakower, 1991) and compatible with the ways scholars viewed colleges and universities (Baldridge, Curtis, Eker, & Riley, 1977; Birnbaum,1988). Cameron and Quinn (2006) defined the four cultural types and developed an instrument to profile an organization's culture. The four culture types were labeled adhocracy, market, hierarchical, and clan, each with characteristics representing sets of assumptions, orientations, and values, which constituted the culture of an organization.

A notable distinction about the four cultures was that they represented competing assumptions. In other words, each continuum of the two dimensions highlighted a core value that was opposite from the value on the other end of the continuum (ex., flexibility versus stability, internal versus external). Therefore, the two dimensions produced four quadrants that had competing values on the diagonal. Thus, the clan and market cultures represented competing values. The clan culture valued flexibility and integration contrasted with the market culture that valued control and differentiation. Likewise, the adhocracy and hierarchy cultures represented competing values. The adhocracy culture valued discretion and external focus while the hierarchy culture valued stability and an internal focus. Moreover, the quadrants that were adjacent to each other shared values on their common dimension and were therefore complementary cultures. The hierarchy and market cultures represented complementary cultures and shared the values of stability and control along the common dimension of structure. The clan and adhocracy cultures represented complementary cultures and shared the values of flexibility and discretion along the common dimension structure. Similarly, the hierarchy and clan cultures represented complementary cultures and shared the values of internal focus and integration along the focus dimension while the adhocracy and market cultures represented complementary cultures and shared the external focus and differentiation values along the common dimension of focus (Cameron & Quinn, 2006).

In addition to differentiating between different types of cultures, the typology from the Competing Values Framework provided a means of distinguishing among alternatives models of governance of organizations. Researchers in higher education

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consistently defined organizational culture as values and beliefs shared by the members of the organization (Masland, 1985; Smart, Kuh, Tierney, 1997; Tierney, 1988). The description of organizational governance in higher education originated with the historic organized anarchy, bureaucratic, political, and collegial models of beliefs about colleges and universities (Baldridge, Curtis, Ecker, & Riley, 1977). Bolman and Deal (2003) proposed four comparable frames as generic ways of viewing organizations. The structural, political, human relations, and symbolic frames provided an approach for research that has been applied to presidential leadership in colleges and universities (Bensimon, 1989; Neumann, 1989).

The adhocracy culture emphasized flexibility, spontaneity, and individuality and was characterized by an emphasis on external positioning, long-term time frame, and achievement-oriented activities. The bonding mechanisms emphasized innovation and development, with the primary strategic emphasis placed on growth and the acquisition of new resources, including information. This cultural perspective was compatible with the organized anarchy governance model (Cohen & March, 1986), loosely-coupled systems (Weick, 1976), the interpretive approach to strategy (Chaffee, 1985), and the symbolic frame of organizations (Bolman & Deal, 2003). The latter approach was adopted by many private colleges in the 1980s in their efforts to adjust to a changing environment (Chaffee, 1984; St John, 1991).

The market culture emphasized stability, control, and predictability and was characterized by an emphasis on external positioning, long-term time frame, and achievement-oriented activities. The bonding mechanisms for this culture emphasized

goal attainment with a strategic emphasis on competition and achievement. This cultural

perspective was compatible with the political governance model for decision making

(Baldridge, Curtis, Eker, and Riley, 1977) and the political frame of organizations

(Bolman & Deal, 2003). It was also consistent with the adaptive planning strategy

(Chaffee, 1984), an advocated approach for colleges and universities (Kotler & Murphy,

1981; St. John, 1991).

The clan culture emphasized flexibility, individuality, and spontaneity and was

characterized by the significance of internal emphasis, short-term time frame, and a focus

on smooth operations. Loyalty and tradition were the bonding mechanisms with a

strategic emphasis on human resources and cohesion. The clan classification of culture

was compatible with Goodman's (1962) image of universities as a community of

scholars, the classical model of college and university organizations that emphasized

academic governance in processes (Mortimer & McConnell, 1978), and the collegial

model of decision making (Baldridge, Curtis, Eker, & Riley, 1977). This concept was

also compatible with the human resources frame (Bolman & Deal, 2003), a view of

organizations that emphasized internal relations among individuals. This organizational

perspective of colleges and universities was commonly held by faculty.

The hierarchical culture emphasized stability, control, and predictability and was

characterized by the significance of internal emphasis, short-term time frame, and smooth

operations. The primary bonding mechanisms were policies, procedures, rules, and

coordination with a strategic emphasis on permanence and stability. This Weberian

representation of an organization was at one time a common framework for viewing the

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administrative activities of colleges and universities (Corson, 1960) but not an image that was compatible with the basic values of faculty who generally preferred flexibility over standardized rules and regulations (Birnbaum, 1988). The hierarchy culture was also compatible with the bureaucratic organizational model of decision making (Baldridge, Curtis, Eker, and Riley, 1977) and the structural frame of organizations (Bolman & Deal, 2003).

History provided the researcher with a chronological development of cultural types and organizational views in higher education. The clan and hierarchy culture and associated governance coexisted in colleges and universities until the 1960s. The two cultures shared their internal emphasis and short-term time frame orientation, making them compatible with a linear approach to planning (Chaffee, 1985) that dominated higher education until the mid 1970s (Halstead, 1974). The opposing values between these two cultural types in the institution were resolved in theories of professional bureaucracies (Clark, 1972; Etzioni, 1964; Mintzberg, 1979). The 1970s represented a turbulent period in American higher education characterized by student protests and criticisms. This contributed to the emergence of new organizational models of decision making that placed a greater emphasis on open systems and interactions with the external environment, as characterized by the market and adhocracy cultures, respectively (Smart, 2003; Smart & Hamm, 1993; Smart & St. John, 1996).

Empirical Studies of Organizational Culture

Because of the interest of the researcher in a quantitative study about institutional culture, the literature review focused on research studies for profiling the culture of an organization using the Competing Values Framework where possible in order to become more informed about the methodology used to collect and analyze this variable.

Cultural Type

Cameron and Quinn (2006) referred to cultural type as the kind of culture present within an organization. They explained that it is important to know an organization's type since success depended on the extent to which the organization's culture matched the demands of the external environment. In a study of 334 colleges and universities examining the relationship between organizational effectiveness and cultural type, congruence, and strength, Cameron and Ettington (1988) found that cultural type was a stronger determinant of organizational effectiveness than cultural strength and congruence. Zammuto and Krakower (1991) conducted the most comprehensive study of the relationship of culture and other organizational variables in 332 colleges and universities. They concluded that cultural type was a significant predictor of strategic orientation. In a study of 334 four-year colleges and universities, Smart and St. John (1996) confirmed Wilkins and Ouchi's (1983) classification of alternative cultures and the differential effectiveness of culture types. Their findings suggested that there was no individual culture type best suited for a college or university; culture types were related to higher levels of performance on different dimensions of effectiveness. Quinn, Spreitzer, and

Hart (1992) studied public utility companies and concluded that organizations tend to either possess a combination of cultural types, are driven by several dominant cultural types, have one dominant cultural type, or have no specific cultural type. They concluded that it is important to study the overall cultural profile of an organization in analyzing the influence of its culture and not limit the analysis to the dominant type. Similarly, Lawrence and Lorsch (1967) suggested that as organizations adapted to other environments over time, they tended to become more differentiated, making internal integration more difficult. They concluded that the most successful companies were both differentiated and integrated using common cultures as a mechanism for integration.

Cultural Complexity

Smart (2003) studied the relationship of cognitive and behavioral complexity in leadership and culture to nine traditional indicators of institutional effectiveness in 2-year colleges in Tennessee utilizing the Competing Values Framework (Cameron & Quinn, 2006). He examined the complexity of campus culture as perceived by faculty and administrators and its influence on institutional effectiveness (performance). The complexity of the culture was determined by the presence of cultural types in the campus culture whose mean was greater than the overall cultural mean in the study. Complexity was defined by the number of above average culture types within a campus culture, ranging from zero to four cultural types. He concluded that the more complex the culture with respect to the number of above average cultural types contained within the campus

culture, the higher the performance of the two-year college as measured by the nine effectiveness indicators.

Cultural Strength

Cameron and Quinn (2006) defined cultural strength mathematically as the number of points awarded to a specific cultural type based on the responses to the scenarios in their *Organizational Culture Assessment Instrument*. The extent to which an organization needed a strong dominant culture was a matter of circumstance and the environment. There was no ideal cultural strength and each organization determined the degree of strength required to be successful in its environment. Smart and St. John (1996) conducted a study of 334 four-year institutions to test both the independent and combined influence of cultural type and cultural strength on institutional performance. Their definition of cultural strength, however, was defined as the congruence between espoused beliefs and actual practices as argued by Argyris and Schön (1978). Smart and St. John (1996) concluded that cultural strength in this definition when combined with cultural type differentially improved performance as measured by nine performance indicators. This study demonstrated that the benefits that accrued to each culture type were conditional on the presence of an alignment between espoused cultural values and actual management practices. Nystrom (1993) studied health care organizations to examine the influence of culture on employees with respect to organizational commitment, job satisfaction, and performance. Findings from this study indicated that employees in

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strong cultures were more committed, satisfied, and productive than those in

organizations with weak organizations, where the job attrition rate was usually higher.

Cultural Congruence

Cameron and Quinn (2006) referred to cultural congruence as the extent to which the

culture in one component of the organization was consistent with the culture in other

components. Specifically from the Competing Values Framework, organizational culture

was composed of six dimensions. Congruence was the extent to which the cultural type

of the organizational leadership dimension was consistent with the combined cultural

types of the dimensions for dominant characteristics, management of employees,

organization glue, strategic emphasis and criteria for success. Congruence implied that

various aspects of the organization needed to be aligned. Findings from research by

Cameron and Quinn (2006), Nystrom (1993), and Denison (1990) indicated that

congruent cultures, though not a prerequisite for success, were more typical of high

performing companies. This demonstrated that organizations with clear values and

assumptions minimized the confusion that interfered with effective performance. Denison

(1990) found that the extent to which congruence was associated with effective

performance diminished over time. He explained that cultural congruence was needed in

some organizations in order to achieve short-term performance, but in the longer term

restricted the choices available to the organization in establishing itself in the

marketplace. Since adaptation to the environment required flexibility and variety, cultural

congruence inhibited the process. Smart and Hamm (1993) and Smart and St. John

(1996) concluded in their studies in higher education institutions that cultural congruence did not result in significant higher performance as measured on nine performance indicators.

Organizational Performance

The literature review on organizational performance focused on theories and empirical studies applicable to actions from the four performance subsystems in Schwandt and Marquardt's (2000) Organizational Learning Systems Model. The Parsons' paradigm of the four prerequisite functions (adaptation, goal attainment, integration, and latency/pattern maintenance) was operationalized through the four performance subsystems (environmental interface, action and reflection, dissemination and diffusion, and memory and meaning) in Schwandt and Marquardt's (2000) model. Consistent with Parsons' concept of four functional prerequisites, the performing actions within each of the four subsystems of the organizational performance system must be implemented in order for the organization to change through performance. Performance actions applicable to higher education were selected from the literature based on Schwandt's performance subsystem action sets. The following indicates areas of interest in performance actions and availability from the literature:

1. Actions within the exchange performance subsystem included allocation of resources.

2. Actions within the production/service performance subsystem included planning and quality assurance.

3. Actions within the coordination performance subsystem included structure and the professional bureaucracy.

4. Actions within the reinforcement performance subsystem included recognition and rewards.

The following sections provide related theory and empirical research for each of the four performance subsystems and the inclusion of actions in each of the performing subsystems.

Adaptation and Exchange Performance Subsystem

The exchange performance subsystem obtained, allocated, and managed resources in order to respond to the needs of the organization as it achieved its goals. The important contribution from the literature was an understanding of how resource allocation and financial management affected the ability of the organization to achieve its goals.

Massey (1996) stated that money was the ultimate instrument of management for those who govern and lead. The manner in which leaders and managers allocated and managed their financial resources often determined the effectiveness of their goal accomplishment. Higher education finance became an interest for research for three reasons: (a) increased enrollment and educational costs, (b) new strategies and techniques that resulted from the accountability and assessment movements, and (c) the availability of more experts and professional organizations like the National Association of College and University Business Officers (NACUBO), College and University Business Administration (CUBA), the National Center for Higher Education Management Systems (NCHEMIS), and the State Higher Education Executive Officers (SHEEO) to

conduct studies about the topic in different environments in higher education. Two major categories of research in the exchange performance subsystem in higher education were resource allocation policy (Liefner, 2003) and internal financial management (Clark, 1983).

Theories Related to the Exchange Performance Subsystem

Clark (1983) classified national higher education systems into (a) market-oriented systems that were primarily coordinated by market interactions and (b) state-oriented systems that were primarily coordinated by governmental planning. Market-oriented funding for higher education was provided by private actors in the form of tuition and fees, gifts, grants, or research contracts. Their demands drove many of the activities of institutional leaders, faculty, and staff. Competition was necessary for obtaining high levels of funding, and institutions were compelled to offer high-quality teaching and research as well as to foster educational and organizational innovations to remain competitive. In state-oriented systems, funding for higher education was received from the government, and programs of teaching and research offered by the institutions were managed by government directives. The government allocated funds on the basis of prior year budgets and added or deducted incremental changes, with some adjustments based on enrollment formulas. When there were changes in demand, state-oriented systems had the tendency to safeguard structures and be less innovative and responsive to the environment.

Principal-agent theory (Liefner, 2003) provided a lens through which to analyze the effects of different forms of resource allocation on behavior. The theory dealt with the relationship of a principal who employed an agent, and in which the agent was paid in different ways. The focus of the theory was to find a payment structure that motivated the agent to work according to the goals of the principal. In higher education, the principal could be a federal or state department of education or governing board, a board of trustees for an institution, a president, a dean, or even a department chair. The agent was the actor in higher education who received assignments, funds, or salaries from the principal. In higher education, it was possible for managers to simultaneously hold the role of principal and agent, though it was traditional for faculty and researchers to be viewed as agents. Within the context of principal-agent theory, three terms were frequently used. (a) Level of activity referred to the amount of time and effort an agent devoted to activities directly related to the goals of the principal. The goals of the principal in higher education were generally considered to be high-quality teaching and research. (b) Success referred to the form of monetary profits. Although teaching students and advancing knowledge did not directly produce monetary income for the agent, it was considered success in higher education. (c) Risk referred to the possibility that some activities failed to be successful.

Colleges and universities were defined as complex organizations, called professional bureaucracies, in which the agents had specialized knowledge about their activities that administrators did not share, making the act of monitoring difficult for both principals and the institution (Clark, 1983; Mintzberg, 1979). To avoid a situation where

agents took advantage of the situation due to their specialization, the principal linked

funding to performance (success). Within the institution, incentives to work according to

the assignments of the principal followed the same framework.

Empirical Studies Related to the Exchange Performance Subsystem

While the resource allocation process was summarized as knowledgeable people making

informed decisions, evidence existed that the process used to allocate resources affected

outcomes. Efforts to balance institutional values and market forces while managing

complexity in the institution had traditionally led policymakers to persevere in central

control over resources. The most common control method under this policy was

incremental line-item budgeting where the previous year's base budget was increased or

decreased by amounts associated with particular line items of expenditures. This

traditional form of resource allocation by incremental line-item budgeting was more

effective in a simpler and more stable time. In the modern environment of complexity

and environmental change, the centralized budgeting process hampered productivity

improvements. The key to effective resource allocation shifted to (a) understanding the

system of incentives of intrinsic and instrumental values that guided institutional

spending, (b) recognizing and managing the diversity of intrinsic values within the

institution, and (c) managing complexity (Massey, 1996).

As institutions sharpened their priorities, they discovered that traditional resource

allocation methods like line-item budgeting were obstacles to change. Tight centralized

control was labeled an accountability killer. Massey's (1996) work in resource allocation

in higher education revealed that revenue responsibility maximized marketplace effects and performance budgeting responsibility emphasized the intrinsic value effects. Together, these approaches relied on decentralization to mitigate the shortcomings of line item budgeting. Massey proposed that institutions restructure their resource allocation systems from a "profit" orientation based in economic theory to a "value" orientation based in utility. His research indicated that decentralization and restructuring of the resource allocation process was a key determinant in the ability of an organization to embrace the principles of continuous quality improvement and business process reengineering. He suggested that while broadening the participation base in resource allocation required a leadership strategy different from top-down strategies, it was a necessary condition if the institution was to become effective and flexible. The majority of work in this area has been in administrative and support areas of institutions, but there was evidence that resource allocation initiatives aimed at restructuring academic work were beginning to appear (Banta, 1993; Massy, 1996).

Accountability and public pressure over the past thirty years have forced governments in western countries to seek ways of meeting the needs of society without spending excessive tax-generated money. One approach to respond to public pressure was to link funding to performance (Burke, 2006; Williams, 1997). Shifts in income sources and forms of resource allocation had an impact on the behavior of colleges and universities as well as their internal processes of allocating resources.

Liefner (2003) analyzed forms of resource allocation in university systems internationally and their effects on institutional performance. A theoretical approach to

the problem of changing funding sources suggested that performance-based funding tended to bring about positive changes but was also a factor with unintended side effects. Forms of resource allocation influenced the behavior of academics and managers in higher education, particularly their levels of activity, the kinds of activity they engaged in, and their methods of dealing with risk. This study revealed that changes in resource allocation had an impact on the level and types of academic activity but not on the long-term success of the institutions. Performance-based funding produced incentives to work hard but resulted in a concentration on fields in which the scholar's expertise was well known and success was more assured. The absence of a performance orientation allowed scholars to both work on projects that had a high chance of failure but were potentially more innovative.

For the long-term success of the institution, the study evaluated the influence of faculty qualifications, student ability, institutional culture, forms of resource allocations, and other incentives. The only factor classified as decisive for long-term success by more than 90% of the participants was the quality of academics. The second factor was the qualification and motivation of students. The allocation of resources was viewed as a means of developing an innovative and performance-oriented institutional culture but its direct effects on successful teaching and research were perceived to be limited (Liefner, 2003).

This study revealed that the forms of resource allocation had limited differences in institutional success. The findings indicated that a creative environment and a basic infrastructure were essential in attracting qualified people, and that reputation and past

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successes along with clear institutional goals had a positive impact on future institutional development. The result that the quality of the faculty was a crucial factor for success indicated that well-qualified people tended to respond less to monetary incentives than to individual motivation and scientific interests. Faculty that were less motivated responded to the pressures of performance-based funding, but they were not likely to be of the higher quality of faculty and their level of activity was small. This explained why the existing effects of performance-based resource allocation on behavior did not lead to obvious differences at the institutional level. Institutions with a large number of highly motivated and qualified faculty were successful regardless of the form of resource allocation (Liefner, 2003).

Summary

These studies support the notion that resource allocation was necessary for the adaptation and survival of the organization. It also supported inclusion of resource allocation as an action in the exchange performance subsystem. This function provided the resources necessary for the organization to implement its plans and actions.

Goal Attainment and the Production/Service Performance Subsystem

The production subsystem incorporated the actions and processes that an organization performed to produce a product, provide a service, or reach a goal. It has traditionally been the focus of management efforts. The important contribution from the literature was

an understanding of how planning and quality assurance actions contributed to the ability of an organization to achieve its goals.

Theories Related to the Production/Service Performance Subsystem

Quality, considered an indescribable concept in academe, has been discussed as something that can be managed and improved (Austin, 1991; Bergquist & Armstrong, 1986; Dill, 1992; Seymour, 1991, 1992). Institutions have begun exploring the adoption of innovations from business and industry management practices for improvements in academic and institutional quality.

The term quality has been used in higher education as a term of art, a mental abstraction that varied depending on the user perspective (Olscamp, 1978). Winn and Cameron (1998) explained that quality in business and industry was measured by the absence of errors. This definition began to appear in the higher education literature within the topic area of total quality management (Seymour, 1991; Sherr & Teeter, 1991).

The work of Walter Shewhart (1931) pioneered the focus on quality in business and industry. Other contributors included Feigenbaum (1961), Crosby (1979), and the Japanese writer Ishikawa (1985). American manufacturers rediscovered the potential of quality control. Deming (1986), under the rubric of total quality management (TQM), generated renewed interest in quality and influenced views of quality assurance in higher education. Deming offered a comprehensive perspective for achieving continuous improvement in quality through knowledge of variation, guidelines for management, and specific analytical tools and methods. His 14-point management guideline has been

translated into terms more acceptable to potential adopters in higher education (Banta, 1993; Miller, 2007).

The development of American higher education suggested an evolution in the mechanisms employed at the institutional level for reducing variation and improving academic quality. The earliest colleges exhibited a clan culture and procedures of control in the collegial decision making model, which was gradually supplemented by the rules and regulations in the hierarchy/bureaucratic governance model. There was increasing reliance on market-based mechanisms like TQM to reduce variation. The evolution toward market control as a means of reducing variation in quality became visible in state governments as they attempted to improve higher education through strategies like outcomes assessment (Austin, 1991; Ewell, 1991a, 1991b; Neumann, 1987) and performance-based funding legislation (Burke, 2006).

Empirical Studies Related to Production/Service Performance Subsystem

Dill (1992) examined Deming's 14-point guideline for total quality management to determine their congruence with faculty values for quality. He found that the strengths of Deming's perspective were aligned with the weaknesses in American colleges and universities as organizations. Dill suggested that a framework for quality management in higher education was needed which utilized Deming's approach but was grounded in the context of academic organizations. He concluded that academic units organized their academic programs as if each student's education was crafted by an individual faculty member instead of acknowledging the reality that each student's education was a product

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of the uncoordinated work of many faculty members and others. Dill stated that this type of system invited variation in educational quality and encouraged the inefficient use of resources. The management of academic quality at the institutional level potentially offered an alternative to externally mandated forms of quality. He concluded that the core of such an effort was collegial responsibility for academic design.

Winn and Cameron (1998) conducted a study to investigate the validity of the seven components of the Malcomb Baldridge National Quality Framework and the extent to which it applied to higher education. Specifically, their study aimed to determine if a relationship existed between the leadership dimension (quality leadership), the four system dimensions (management of processes, human resource and development, strategic quality planning, and quality information and analysis), and the two outcome dimensions (customer focus/satisfaction and quality/operational results). The results of their study revealed that leadership directly influenced the four system dimensions but not the outcomes. The results also revealed a significant relationship among the four systems. Information and analysis tended to influence strategic planning, which in turn affected human resource development and management of process quality (in that order). The two outcome dimensions were not affected by the four systems in a consistent way. First, the customer focus and satisfaction outcome dimension was significantly affected by strategic planning and management of process quality. This suggested that strategic plans emphasized customer service along with the processes and procedures required to operationalize the plan to produce the desired outcome. Second, the outcome dimension called performance results was significantly affected by human resource development

and management of process quality. This suggested that desired outcomes in organizations like achieving goals, efficiency, improvement, and reducing errors were directly affected by having the human resource system and operational processes and procedures firmly in place. Ulrich and Lake (1993) offered that adequate systems that select, reward, and develop organizational members and that systematically organized core technologies and production processes in organizations were the most important factors in accounting for performance results.

Summary

These studies supported the notion that the production/service subsystem of the performance system was necessary for goal achievement and planning for the future. Moreover, leadership was a key factor in the success of any technique used for planning, assessment, and quality assurance. It also demonstrated the importance of theory and frameworks for educational leaders and the need to customize standard models of performance improvement and quality for an institution that agreed with the expectations and values shared by members of the organization.

Integration and the Coordination Performance Subsystem

The coordination subsystem provided the integration function for the performance system. It was critical because its actions and elements represented the process for linking human actions and skills with the requirements of the task and the standards of performance required in order that separate acts were integrated into the collective effort.

Actions associated with the coordination subsystem included management control processes, job design, training and career development, and organizational development. The important contribution from the literature was an understanding of how organizational structures contributed to performance improvement by the organization.

Theories Related to the Coordination Performance Subsystem

Finding an effective system of roles and relationships has been an ongoing struggle for organizations. Managers rarely faced well-defined problems with clear cut solutions. Instead, they were confronted with structural dilemmas. Two design issues at the heart of organizational structure were differentiation and integration. Differentiation referred to the allocation of work and integration referred to coordination of roles and units once responsibilities were identified. An organization's age and size affected its structural shape and character. Over time, as an organization grew, pressures for efficiency and discipline generated greater levels of formalization and complexity (Greiner, 1972, Mintzberg, 1979).

Mintzberg (1979) offered five structural configurations for an organization. At the base of the Mintzberg image was the operating core, consisting of people who performed the basic work of the organization in providing products or services to customers. In higher education, the operating core was composed of faculty. Above the operating core was the administrative component, composed of managers who supervise, control, and provide resources to the operators. In higher education, the administrative core was composed of middle line managers, directors, and supervisors. Above the administrative

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component was the strategic apex, composed of senior managers focused on the external environment, mission development, and shaping the strategic design and direction of the organization. In high education, the strategic apex was composed of the senior executive leadership and the governing board. Two additional components were alongside the administrative component. (a) The technostructure was composed of specialists and analysts who standardized, measured, and inspected outputs and processes. In higher education, the technostructure was composed of functions like accounting, human resources, information technology, admissions counselors, financial aid counselors, registrars, institutional research, and auxiliary enterprises. (b) The support staff performed the tasks that facilitated the work of others. The support staff was composed of functions like administrative assistants, custodians, and food service workers.

The five structural configurations derived from Mintzberg's (1979) work were the simple structure, machine bureaucracy, professional bureaucracy, divisionalized form, and adhocracy. In higher education, the professional bureaucracy was the prevailing structural configuration. The professional bureaucracy was a form of organizational design characterized by professionals whose knowledge and skills were acquired through extensive training and who function independently within the organization, creating a loosely coupled structure. The activities of professionals in the operating core were too complex to be closely supervised and too immersed in skills to be standardized. Other than professional standards and ethics, very little control was imposed on their practices. As a result, professionals enjoyed significant autonomy and sought to influence any decisions that affected their work. Executives in the professional bureaucracy were

usually professionals who devoted all of their time to administrative tasks. Their influence was much weaker compared to their counterparts in more centralized structures. A basic function of the executive was to protect the operating core from external interference.

Professional bureaucracies were very difficult to reform but reform did slowly occur. Reform efforts typically produced little impact because the professionals often viewed any change in their surroundings as a distraction from their chosen work, resulting in a paradox. Individuals, especially faculty at the operating core, could be at the forefront of their discipline while their institution maintained status quo. Change initiatives for professional bureaucracies usually failed or encountered resistance when control was attempted over the operating core (Birnbaum, 1988; Bolman & Deal, 2003; Cheng, 1990; Mintzberg, 1979).

Empirical Studies Related to the Coordination Performance Subsystem

Mintzberg (1979) observed that change in a professional bureaucracy seeped into the organization through the slow process of changing the professionals by altering who entered the profession, what they learned in training, and how they maintained their skills. Cheng (1990) analyzed the literature on change in professional bureaucracies and summarized four successful change approaches: (a) replacing the staff, (b) providing continuing education programs, (c) utilizing liaison techniques like categorizing problems that require professionals to become interdependent, and (d) decreasing autonomy through reorganization by shifting the grouping of people from a functional to a market

basis and building coalitions. However, he concluded that even when consensus was reached on a change strategy, resources were allocated, and change was underway, the intended results were not inevitable if there was inadequate commitment from colleagues and there was no method to gauge performance, monitor progress, identify unexpected problems, assess needs in order to improve, and reward the desirable behavior.

Summary

These studies supported the notion that the coordination function of the performance system was necessary for providing the resources and processes necessary for integration. It also demonstrated that change in a professional bureaucracy was possible when constructive approaches through shared values were used that motivated professionals to participate and work collaboratively.

Pattern Maintenance and the Reinforcement Performance Subsystem

The reinforcement subsystem provided the pattern maintenance function with the performance system. Actions in this subsystem were comprised of elements that contributed to the maintenance of standards and values used by the organization to make judgments concerning its performance. Actions in this subsystem included appraisals, rewards, feedback, mentoring, and coaching. The important contribution from the literature was an understanding of how reinforcement contributed to performance improvement by the organization.

Theories Related to the Reinforcement Performance Subsystem

Structuration and organizational learning theories combined to provide a theoretical framework to interpret the relationships between rewards and performance. Giddens (1979) defined structure as rules and resources which provided guidance for agency actions. He defined duality of structure as the essential recursiveness of social life, meaning that structure was both medium and outcome of reproduction of practices. The Organizational Learning Systems Model (Schwandt & Marquardt, 2000) identified structuration as an output interchange media of the learning system's dissemination and diffusion model, which was input to the environmental interface, action and reflection, and memory and meaning subsystems of the learning system. Social theory research asserted that differentiated rewards were a structuring variable, meaning that the reward impacted the social structures inherent in the system. Variations in rewards manifested themselves in different performance outcomes (Hazy, Tivnan, & Schwandt, 2004).

Empirical Studies Related to the Reinforcement Performance Subsystem

Hazy, Tivnan, and Schwandt (2004) investigated how different logics for distributing rewards impacted the agent and the social situation. The researchers used a computational model built upon Porter's (1985) value chain model, a competitive assessment model proposed by Peterson and Dill (1997) for higher education and by Porter in his competitive strategy consultation with the state of South Carolina. The modeling system was used to create 60 unique artificial organizations. The researchers tested two scenarios: rewards to agents based upon direct contribution to successful production only

(performance driven by existing social structure) and rewards to agents based up

contribution to the exchange of knowledge that informed successful production (learning)

as well as production (performance). The results of the study revealed that rewarding

teaching and learning behaviors enhanced organizational outcomes over and above

rewards provided for performance alone. The important finding was that agents did not

learn from the rewards and were not motivated by the rewards. Therefore, the study

demonstrated the structural effects that were related to the social context of reward

instead of the agent talent, skill, or motivation.

Summary

These studies supported the notion that the reinforcement function of the performance

system was necessary for both performance and learning. Moreover, the reward from

knowledge acquisition and use provided both an individual and organizational benefit. It

also highlighted the benefits of fostering a learning culture and making learning an

organizational goal and method of development.

Organizational Learning

Ushered in by an interest in organizational change in the 1960s, organizational learning

evolved a decade later when it was realized that concentration on performance objectives

alone was insufficient if organizations were to change and innovate. March and Olsen,

publishing their model of organizational choice in the 1975 *European Journal of Political

Research,* linked individual beliefs to organizational behavior and concepts of

information exposure, memory and retrieval, and communication structures. Their model enabled subsequent researchers to explore learning by collectives using such concepts as single- and double-loop learning (Argyris & Schön, 1996). The first effort at developing a construct for organizational learning appeared in the 1980s when Shrivastava (1983) posited four approaches to organizational learning (adaptive learning, assumption sharing, development of knowledge, and institutional experience), and established the foundation for future studies of organizational learning from the perspective of a complex social phenomenon. Building on the literature, Fiol and Lyles (1985) separated the literature on organizational learning into cognitive or behavioral change, presenting organizational learning as a multidimensional and complex set of actions. Daft and Huber (1987) viewed organizational learning from the two perspectives of system structures and interpretation, emphasizing the need to develop internal mechanisms for the distribution and interpretation of information.

Many definitions and perspectives on organizational learning have emerged as a result of this relatively young field of study. Because knowledge management and organizational learning were used interchangeably by some researchers, the literature from the area of knowledge management was also reviewed for this study. The application of the theory of organizational learning and the practice of knowledge management was more prevalent in business and industry. Therefore, the literature was reviewed from areas other than higher education.

This study adopted the view that knowledge is socially constructed. Schwandt and Marquardt (2000) defined organizational learning as "a system of actions, actors,

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symbols, and processes that enables an organization to transform information into valued

knowledge which in turn increases it long-run adaptive capacity" (p. 43). Their

Organizational Learning Systems Model was operationalized through Parsons' paradigm

of four prerequisite functions (adaptation, goal attainment, integration, and

latency/pattern maintenance), resulting in the four learning actions of the organizational

learning system (environmental interface, action and reflection, dissemination and

diffusion, and memory and meaning). Consistent with Parsons' concept of four functional

prerequisites, the learning actions within each of the four subsystems of the

Organizational Learning Systems Model must be implemented in order for the

organization to create knowledge and change through learning. Actions consistent with

the literature about organizational learning that were included in Schwandt's (2000)

learning subsystems action sets were as follows:

1. Actions within the environmental interface learning subsystem included environmental scanning.

2. Actions within the action and reflection learning subsystem included knowledge creation.

3. Actions within the dissemination and diffusion learning subsystem included knowledge sharing.

4. Actions within the memory and meaning learning subsystem included organizational memory.

The sections that follow provide related theory and empirical research for each of

the four learning subsystems and the inclusion of these actions in each of the learning

subsystems.

Adaptation and the Environmental Interface Learning Subsystem

The environmental interface learning subsystem functioned as the information filter for the organizational learning system. With a focus on the environment in which the organization exists, the output of this subsystem was new information. The literature review provided many references to the concept of perceived uncertainty in the environment along with frameworks for explaining environmental scanning actions. Related theories provided perspectives from orientation to environmental conditions of uncertainty and its interpretations for subsequent actions (Aguilar, 1967; Daft & Weick, 1984) to strategies describing the acquisition of information about the environment (Dollinger, 1984). The important contribution from the literature was an understanding of the importance of information for the creation of knowledge and learning, and how it was affected by the most invisible level of Schein's (2004) culture framework, basic assumptions.

Theories Related to the Environmental Interface Learning Subsystem

Aguilar (1967) was the most cited researcher on the topic of environmental scanning. His work was the foundation for related studies on the importance of information acquisition and its relevance to an organizations' decision-making process. He defined environmental scanning as the action of seeking information about an organization's environment and using the information it yielded to the leadership in its task of planning and directing for the future of the organization. While environmental scanning often referred to the external environment, Parsons allowed for the environment to be viewed

as both the internal and external environment of the organization. Parsons' considered an internal unit of an organization to be an external environment to other units of the organization (Parsons & Platt, 1973; Schwandt & Marquardt, 2000). Aguilar proposed four modes of environmental scanning: undirected viewing, conditional viewing, informal search, and formal search.

Daft and Weick (1984) built upon Aguilar's (1967) research to develop their model of organizations as interpretation systems with an emphasis on sense making and the reduction of equivocality (uncertainty) in the environment. Equivocality was defined as the extent to which multiple interpretations about the environment existed due to data and information that were unclear. Sense making included constructing, filtering, framing, and giving subjective matter a tangible entity (Weick, 1995). The Daft and Weick model presented two dimensions for differentiating the process of interpretation in an organization: (a) management's beliefs about the analyzability of the environment and (b) the extent to which the organization intruded into the environment in order to understand it. The four choices in the modes of interpretation, dependent upon the assumptions about the environment and its organizational intrusiveness, were undirected viewing, conditioned viewing, enacting, and discovering. Huber (1991) defined five methods by which organizations acquired information, including external scanning and internal performance monitoring. Clagett (1988) proposed that environmental scanning for higher education included the six informational categories of demographics, economic, legal-political, competitor relationships, sociocultural, and technological.

Empirical Studies Related to the Environmental Interface Learning Subsystem

 Research studies demonstrated a strong relationship between the intensity of environmental scanning, organizational performance, and behavior driven by factors such as uncertainty and maturity of the organization (Daft, Sormunen, & Parks, 1988; Dollinger, 1984; Duncan, 1972). Aguilar's (1967) research study on the environmental scanning behavior of managers revealed preferences for sources of environmental information based on age, experience level, or size of the organization. Experienced managers were more likely to rely on personal networks for their primary source of information whereas less experienced managers were more likely to rely on documents. The findings also showed that larger organizations relied more on internal sources for information regarding the competitiveness of the organization than smaller organizations that relied more on information related to performance.

While many of the research studies focused on for-profit organizations, Hambrick (1982) studied the scanning behavior of chief executives in service industries, including liberal arts colleges, and its relationship to strategies for their organizations. His findings suggested a weak relationship that explained why these types of industries were not effective in strategic planning. Owen and Lambert (1998) conducted a study to determine the difference in the evaluation needs of managers and leaders. Their study revealed that the purpose of evaluation for managers was to achieve measurable objectives (performance) related to program goals whereas the purpose of evaluation for leaders was education (learning) in order to understand the structure and culture of the organization and the implications for changes to existing programs or the introduction of new

programs. The epistemology of evaluation to a manager was based on a view that

assumed truth to be determinable through indicators that transcended random actions.

Contrastingly, the epistemology of evaluation for the leader was based on the view that

truth was discovered through understanding the wider context, which yielded information

that was pervasive and important to the future of the organization. Leist (2007) studied

the impact of external culture on rural community college presidents and found that

external constituencies expected the president to possess special traits and characteristics

beyond the traditional professional qualities including situational awareness of the

constituents and the ability to tell the story of the locale and its people.

Summary

These studies supported the notion that the environmental interface learning subsystem

was necessary for the adaptation and survival of the organization and that interpretation

of environment and its changes were dependent upon assumptions, the deepest and most

invisible level of Schein's (2004) cultural framework. This function provided the

information and perspective necessary for the organization to be able to plan for its future

as well as improve its performance.

Goal Attainment and the Action and Reflection Learning Subsystem

The action and reflection learning subsystem accomplishes the goals of the organization

and the learning system through activities that included strategic planning and evaluation,

decision-making processes, and group discussions. The output of this learning subsystem

was goal-reference knowledge. Therefore, this subsystem was considered to be the knowledge creation function of the learning subsystem. The literature review provided theories describing how organizations were able to create new knowledge necessary for adaptation and survival (Levinthal & March, 1993; Nonaka, 1994). Research showed that information which was assigned some type of meaning by individuals and the collective resulted in the creation of new knowledge (Weick, 1991, 1995). The contribution from the literature was an understanding of the role of collective reflection for action toward enabling organizations to create new goal reference knowledge and the role of sense making for the assignment of meaning to foster the knowledge creation process.

Theories Related to the Action and Reflection Learning Subsystem

Levinthal and March (1993) posited that organizational learning was challenged with the competing goals of creating new knowledge (exploration) and using existing knowledge (exploitation). They proposed a framework explaining that organizations addressed the conflict through the mechanisms of simplification and specialization. Simplification limited the learning experience to boundaries of time and space whereas specification expanded the learning experience to focus on competence. While both mechanisms enabled organizations to improve performance, they also limited performance through three forms of myopia: (a) a tendency to ignore the long term, (b) a tendency to ignore the larger vision, and (c) the tendency to ignore or overlook failures. It was determined that the challenge to organizations was to find a balance between exploration and

exploitation for future viability and to avoid entrapment in learning dynamics that lead to excesses in exploration or exploitation.

Nonaka (1994) popularized the theory of knowledge creation with his SECI model. Organizational knowledge was created through a conversion process resulting from a dialogue between tacit and explicit knowledge, with individuals as the principle carriers in the creation process. New knowledge was created through the four modes of knowledge conversion: (a) conversion of tacit to tacit knowledge through socialization, (b) conversion of tacit to explicit knowledge through externalization, (c) conversion of explicit to explicit knowledge through combination, and (d) conversion of explicit to tacit knowledge through internalization. Tacit knowledge, residing in the minds of individual members of an organization, formed the beginning point of the knowledge creation process. Knowledge was created in an upward spiraling effect through successive levels of individual, group, and organizational dynamic interactions between the four modes of conversion.

Crossan, Lane, and White (1999) developed an organizational learning framework where knowledge creation was viewed as the means to achieve strategic renewal, determined by the extent to which an organization was able to resolve the tension between what Levinthal and March (1993) described as exploration and exploitation. The four premises of the Crosson, Lane, and White framework included (1) organizational learning involved a tension between contending with new learning and using what has been learned, (2) organizational learning was a multilevel action occurring at the individual, group, and organizational level, (3) organizational learning levels were linked

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by the four social and psychological processes called the 4Is of intuiting, interpreting, integrating, and institutionalizing, and (4) cognition and action affected each other. The feed-forward process of exploration for knowledge creation involved the movement of learning from intuiting at the individual level to interpreting at the group level to integrating and institutionalizing at the organizational level. The feed-back process of exploitation of existing knowledge and potentially unlearning involved the reverse movement of institutionalizing and integrating at the organizational level to interpreting at the group level to intuiting at the individual level. As the two processes of exploration and exploitation processes competed for organizational resources, a tension and conflict for learning was created.

Empirical Studies of the Action and Reflection Learning Subsystem

Research studies supported the view that knowledge creation was a social process. Damonpour (1991) conducted a study to examine the relationship between determinants of knowledge creation and innovation. The study concluded that the type of organization based on structure or industry was a stronger predictor of innovativeness than the type of innovation. Haines and Beard (2001) studied the influence of retirement on the knowledge creation process in healthcare facilities. They concluded that the process of knowledge creation was significantly affected by the departure of employees with longevity with the organization. O'Neil, Bensimon, Diamond, and Moore (1999) found in their study of higher education institutions that when accountability initiatives were approached as an opportunity for self-assessment and improvement, latent benefits

accrued to the well-being of the institution by collectively discussing and questioning what was revealed in accountability reports. It resulted in the transformation of data and information into actionable knowledge. Examples of successful initiatives included improved performance of minority students using a Diversity Scoreboard. Daillak (1982) distinguished between direct and attenuated usage of evaluation findings. Direct use of evaluation findings resulted in the application of results for immediate decision making in the performance of specific activities. Conversely, attenuated use of evaluation findings resulted in the subsequent creation of new knowledge and processes that lead to the emergence of new cultural and managerial values. This suggested that new information from evaluations was one source for knowledge creation which was beneficial to the organization although not readily measurable in terms of its immediate effects.

Summary

These studies supported the inclusion of knowledge creation as an action in the action and reflection learning subsystem necessary for the survival and growth of the organization. This function created new goal reference knowledge necessary for the organization to improve its performance through learning actions.

Integration and the Dissemination and Diffusion Learning Subsystem

The dissemination and diffusion learning subsystem integrated the actions within the learning system through knowledge sharing activities including communication, networking, coordination, and structures based on norms that supported the movement of

information and knowledge. The output of the dissemination and diffusion learning

subsystem was structuring. The literature review provided theories describing how

information and knowledge ere formally and informally shared within the organization.

The contribution from the literature was an understanding of how factors such as

structures, roles, policies and procedures, and management practices influenced the

integration and coordination of actions.

Theories Related to the Dissemination and Diffusion Learning Subsystem

Daft and Lengel (1984) proposed an information richness model. Their model proposed

that organizations needed sufficient information and reduced equivocality in order to

process information for internal coordination due to the interdependence of units. They

concluded that processing rich information was the means to reduce equivocality. They

identified levels of information processing richness based on the potential information-

carrying capacity of data combined with the information media. Media richness depended

on feedback capability, number of cues provided, language variety, and sources of

information. Information media in decreasing order of richness included face-to-face

meetings, telephone conversations, written communications, and numeric formal reports.

Rich media enabled people to interpret data and information and to achieve consensus

about issues that were difficult to understand or analyze. Rich media were more likely to

support knowledge sharing actions than media of low richness. Alavi (2001) suggested

that the existence of common values enabled the receiver to attach meaning and value to

the information obtained from the initiator in order to transform it into knowledge and share among members.

Empirical Studies of the Dissemination and Diffusion Learning Subsystem

Emphasis has been placed on information and communication technologies for sharing knowledge, but research suggested that members of an organization preferred to obtain information from people (Daft & Huber, 1987). Studying the social aspects of knowledge sharing, Hansen (1999) studied the relationship between unit interconnections and the time required to develop new products in a large electronics company based on data collected from over one hundred development projects across forty divisions. He concluded that when the knowledge to be shared was very complex, strong connections between units had a greater influence on new product development time. Conversely, when the knowledge to be shared was not complex, weak connections between units had a positive effect on completion time. Wenger and Snyder (2000) and Moynihan (2005) identified communities of practice and learning communities as successful structures that enabled groups to discuss and share information and knowledge as they worked toward solutions to problems. In a North American study, Cousins, Donohue, and Bloom (1996) surveyed 564 evaluators to determine their opinions, practices, and consequences regarding collaborative evaluation. They found that the primary function of evaluation as perceived by evaluators was to maximize the intended use of new information by making evaluations more responsive to the needs of the stakeholders. The researchers concluded that evaluations with stakeholder involvement were more helpful to practitioners in

improving practice, learning about program processes and consequences, questioning assumptions and beliefs about their practices, and developing skills in conducting research.

Summary

These studies supported the inclusion of knowledge sharing through formal and informal methods as an action in the dissemination and diffusion learning subsystem necessary for the adaptation and survival of the organization. This subsystem created structuring that is necessary for the organization to coordinate the resources to reflect on new information and create new knowledge for learning and performance.

Pattern Maintenance and the Memory and Meaning Learning Subsystem

The memory and meaning subsystem maintained the patterns of action within the learning system, and provided the foundation from which the other learning subsystems received their guidance and control. The output of this learning subsystem was sense making. The literature review provided theories that explained why information was changed into valuable knowledge (Walsh & Ungson, 1991) and how the transformation of information to knowledge was guided by assumptions (Schein, 1996, 2004). The contribution from the literature in this area of understanding the learning process was the role of cultural values, beliefs, and assumptions in guiding learning actions.

Theories Related to the Memory and Meaning Learning Subsystem

The literature review showed a lack of consistency in the definition of organizational memory, with some researchers focusing historically on stored information from the life of the organization (Walsh & Ungson, 1991), focusing technologically on computer-based information systems as a form of memory (Goodman & Darr, 1998), and focusing socially on the role of individuals (March & Simon, 1958). Huber (1991) posited in his organizational learning model of processes that organizational memory facilitated the learning process by ensuring that the organization had the ability to store, share, and update what had been learned.

Empirical Studies of the Memory and Meaning Learning Subsystem

Cross and Baird (2000) studied project implementation in service and manufacturing companies, examining the way in which knowledge acquired from experience migrated throughout organization. They concluded that organizational memory resides in five areas: (a) in the minds of individuals, (b) in computer systems and databases, (c) in work routines and procedures, (d) in the history and development of products and services, and (e) in the relationships between employees as they engaged in the process of conducting their work. Brunner and Guzman (1989) studied participatory evaluation as a tool to assess projects and empower people in two Mexican training programs. They found that participatory evaluation was successful only when the institution that promoted it desired to emancipate the dominated groups and when the groups identified in the project were prepared to assume responsibility for it. They revealed that participatory evaluation

produced action-oriented knowledge based on shared norms and values and was

interpreted by involved people who had a stake in the success of the project. The

knowledge was validated in action and had to prove its usefulness by the changes that it

accomplished. These studies revealed not only the ways in which information and

knowledge was stored, but also identified culture as the means of achieving stability

through maintenance of patterns of meaning.

Summary

These studies supported the inclusion of organizational memory as an action in the

memory and meaning learning subsystem necessary for the adaptation and survival of the

organization. This function created sense making mechanisms necessary for the

organization to interpret new information and goal reference knowledge and determined

the manner in which it was shared.

<u>Linking Culture with Organizational Performance</u>

This section presents the literature review that linked the studies of culture with

organizational performance.

Related Theory Linking Culture with Organizational Performance

Ouchi (1980) and Wilkins and Ouchi (1983) proposed a typology of three cultural types

grounded in transaction cost theory. They viewed the cultural types as alternative

patterned exchanges or governance models. The clan culture socialized members of the

organization to the exchange in a manner such that they perceived their objectives in the exchange as congruent with the purpose of the organization. The market culture resolved the exchange problem through a price mechanism in competitive situations. The bureaucratic culture addressed the exchange problem through an employment contract in which the employees contracted for wages in exchange for compliance with supervisory direction.

Saffold (1988) argued that for an organization's culture to contribute to higher performance levels, it must be a strong culture that possessed distinctive values, beliefs and shared behavior patterns. Other researchers claimed that strong cultures were positively associated with organizational excellence (Deal & Kennedy, 1982; Denison, 1986, 1990; Peters & Waterman, 1982). Proponents of strong cultures suggested that the presence of a shared system of values and beliefs was insufficient alone to enhance organizational performance. They claimed that values and beliefs central to the organization had to be aligned with policy and practice in order to obtain a greater degree of integration and coordination. Denison (1990) argued that the alignment of espoused beliefs and actual practice was the distinguishing feature of a strong culture, and its influence on organizational performance improvement was due to its ability to enable consensus building, exchange information, and carry out coordinated actions.

Argyris and Schön (1974, 1978) emphasized the necessity of understanding the relationship between espoused theories and theory-in-use in research efforts to assess organizational effectiveness. Their approach emphasized the assessment of patterns of behavior as well as belief systems when studying organizational effectiveness. Argyris

and Schön (1974) suggested that organizational effectiveness was higher in organizations where there was congruence between espoused values and actual practices.

Empirical Studies Linking Culture with Organizational Performance

In researching higher education institutions, studies focused on the influence of strong culture types on organizational performance as measured on nine standard effectiveness dimensions or outcomes: student educational satisfaction, student academic development, student career development, student personal development, faculty and administrator employment satisfaction, professional development and quality of the faculty, system openness and community interaction, ability to acquire resources, and organizational health (Cameron, 1978). Cameron and Ettington (1988), Cameron and Freeman (1991), Smart and Hamm (1993), and Smart and St. John (1996) questioned the independent contribution of culture strength to the effective performance of colleges and universities. Overall, they concluded that strong institutional cultures were no more effective than weak institutional cultures in improving the performance of the institution as measured by the nine performance indicators. However, Smart and St. John (1996) found that that cultural type combined with culture strength did differentially influence organizational effectiveness indicators. The study revealed that the adhocracy and clan cultural types were the most effective on eight of the nine indicators. The market culture was the most effective in terms of promoting student career development. The bureaucratic (hierarchy) cultural type was consistently ineffective in influencing performance outcomes.

The findings demonstrated that the benefits that accrued to each cultural type were conditional on the presence of an alignment between espoused cultural values and actual management practices. The growing consistency of evidence that the performance of higher education institutions was linked to their cultural types suggested that the management and change of that culture were paramount responsibilities for college leaders (Smart & St. John, 1996). Schein (2004) suggested that culture and leadership were two sides of the same coin and the only important function of leadership was creating and managing culture.

Smart (2003) conducted a study investigating the influence of cultural and leadership complexity in the two-year college system in Tennessee. Cultural complexity was defined by the number of strong cultural types in an institution. The study determined the influence of combinations of cultural types on institutional effectiveness as measured by nine performance indicators (Cameron, 1978). The results indicated that the higher the level of cultural complexity for an institution, the higher the performance on all nine indicators. This study demonstrated the importance of having cultural variety in order to provide multiple views on problems and opportunities. It also provided supporting evidence of the premise of the Competing Values Framework and the need for organizations to embrace, reflect upon, and be receptive to the perspectives of the four cultural types and their paradoxical views (Cameron & Quinn, 2006).

<u>Linking Culture with Organizational Learning</u>

This section presents the literature review that linked the studies of culture with organizational learning.

Related Theory Linking Culture with Organizational Learning

DeLong and Fahey (2000) studied organizations that had implemented knowledge management or knowledge-related initiatives in their organizations in order to identify obstacles to success. They concluded that culture significantly influenced knowledge-related processes by (a) shaping assumptions about the concept of knowledge, (b) mediating the relationship between individual and organizational knowledge, (c) creating a context for social interaction and determining how knowledge will be used in problem-solving situations, and (d) shaping the creation and adoption of new knowledge.

Empirical Studies Linking Culture with Organizational Learning

Moynihan (2005) studied the effect of performance mandates on governmental agencies in three states. His study revealed that double-loop learning through goal-based learning occurs when attention was given to organizational culture and structural mechanisms like learning communities.

CHAPTER THREE

RESEARCH METHODOLOGY

This Chapter covers the research methodology and design. Specifically, the chapter

includes the research design and procedures that were used to describe and investigate the

relationship between the four cultural types in the Competing Values Framework

(Cameron & Quinn, 2006) and the eight performance and learning subsystems of

Schwandt's (Schwandt & Marquardt, 2000) Organizational Learning Systems Model.

The four cultural types in the Competing Values Framework include the following: (a)

adhocracy, (b) market, (c) hierarchy, and (d) clan cultures. The four performance

subsystems of the Organizational Learning Systems Model contain specific sets of

performance actions and are called the (a) exchange, (b) production, (c) coordination, and

(d) reinforcement subsystems. The four learning subsystems of the Organizational

Learning Systems Model contains specific sets of learning actions and are called the (a)

environmental interface subsystem, (b) action and reflection subsystem, (c) dissemination

and diffusion subsystem, and (d) memory and meaning subsystem.

A case study was the selected methodology to address the research questions for the

study. The following research questions guided the study.

1. What are the perceived cultural types (clan, market, adhocracy, and hierarchy) in
   a selected two-year technical/community college?

2. What are the perceived institutional performance subsystems (exchange,
   production of programs and services, coordination, and reinforcement) in a
   selected two-year technical/community college?

3. What are the perceived institutional learning subsystems (environmental interface,
   action and reflection, dissemination and diffusion, and memory and meaning) in a
   selected two-year technical/community college?

4. Are there relationships between the cultural types and the institutional performance subsystems (exchange, production or programs and services, coordination, and reinforcement) in a selected two-year technical/community college?

5. Are there relationships between the cultural types and the institutional learning subsystems (environmental interface, action and reflection, dissemination and diffusion, and memory and meaning) in a selected two-year technical/community college?

6. Which cultural types are predictors of total institutional performance in a selected two-year technical/community college?

8. Which cultural types are predictors of total institutional learning in a selected two-year technical/community college?

Research Compliance Review

In compliance with the rules and regulations governing institutional research at Clemson University, research study participants were assured that their participation in the study was both voluntary and confidential. Participants were provided with the Informational Letter in the electronic mail message issuing the invitation to participate in the study as well as in the introduction to the online survey (see Appendices A through I). The informational letter described the purpose of the research study and a description of the survey instrument, and informed the participants that the only benefit to them individually would be in have the results presented to the College. Because the study was classified as exempt, no risk existed for the participants beyond the experiences of everyday life. Information about their identify was protected and the data collected from the survey was available only to the Center for the Study of Learning at The George Washington University, the researcher, and the chairperson of the dissertation committee.

The data collected were used solely for research purposes and were coded to protect the identities of the respondents. The findings of the study were presented in aggregate form to ensure the confidentiality and anonymity of the participants. None of the respondents contacted the researcher with questions.

Research Design

A case study was used for this study. The subject matter of a case study is a bounded system (Smith, 1978), a single entity, or a unit around which there are boundaries. In general, a case study has a finite quality about it with respect to a particular period of time in the life of the entity, its space, and/or components comprising the case. A study of a bounded system can contain historical data, quantitative data, and/or qualitative data. The selection of the case is purposeful and intentional because it exhibits characteristics of interest to the researcher, dependent upon what the researcher wants to learn along with the significance of the new knowledge for extending a theory or improving practice (Merriam, 2002). Stake (1995) suggested that a case study is less of a choice of methodology than a choice of subject matter.

Further, a cross-sectional survey research design was used for this study. According to Creswell (2003), a survey design provides a numeric description of trends, attitudes, or opinions of a population by studying a sample of that population from which the researcher can generalize or make claims about the population. Moreover, Strati (2000) stated that a cross-sectional survey design allowed for the examination of the relationships between variables. While Kerlinger and Lee (2000) indicated that survey

research weaknesses are found in its inability to penetrate deeply below the surface opinion and its demand in time, energy, and money to administer the survey, these obstacles can be overcome with a plan that outlines the design and implementation of the research.

The purpose of this survey research, consistent with the intent of a survey design, was to identify the perceptions of culture and institutional performance and learning subsystems and to explore the relationships of these perceptions so that inferences can be made about performing and learning behaviors at the institutional unit of analysis. A two-year technical/community college was selected by the researcher for this case study based on knowledge of the institution and its leadership, 25 years of teaching and leadership experience at the institution, an understanding of the appropriate leadership levels involved in strategically developing the college, the knowledge and experience of the population at the institution, and the researcher's personal network. The criteria also included its situation in time, the appropriateness of the research study to the new institutional leadership in understanding its current culture and orientation to performance and learning, and implications for the leadership in preparing the institution for new initiatives and shaping the culture for success. The College recently conducted a mixed methods study aimed at discovering, in general, an approach to culture development, and specifically, methods to improve service to internal and external constituencies. The findings of that study revealed significant gaps between perceived and expected service quality. A probe for meaning and understanding about the gaps concluded that institutional culture and structure was a factor in the condition of service quality at the

College. It was hypothesized that culture, performance, and learning were related to change approaches for the college in moving toward a theme of institutional excellence. The situation in time at this institution provided an environment in which to conduct this research study in a meaningful way.

The cross-sectional survey was the preferred type of data collection procedure for this study because of the needed information, the strengths of the survey instruments used in other studies, a straightforward and convenient method of collecting the data, and the familiarity by the population of responding to surveys using a web-based interface.

<u>Population</u>

This case study was conducted at a two-year technical/community college located in the central section of the state of South Carolina. The selected college was one of 16 public two-year colleges in a technical and comprehensive education system. The target population for this study was full-time and part-time administrators, faculty, and staff. There were 302 employees in these categories during the Spring 2008 academic term when the study was conducted.

The vision of the College is to enhance the economic vitality and quality of life for all citizens in its service area by being the first choice for exceptional, quality, affordable technical and comprehensive education, provided in an innovative, student-centered learning environment. It is a comprehensive, public, two-year institution of higher education whose mission is dedicated to fostering a positive environment of teaching and learning for faculty, staff, and students. Serving four counties with a

residential population of over 200,000 by its legislative charge, the College confers

associate degrees, diplomas, and certificates. College programs and student support

services provide citizens, businesses, industries, and communities with quality,

affordable, accessible, customer-responsive post-secondary education through life-long

learning and specialized training opportunities specifically designed to develop the

foundation for personal growth, economic development, and an improved quality of life.

The College respects the diversity of its student body and recognizes the worth

and potential of each student, valuing an environment that fosters creativity and

resourcefulness among its students, faculty, staff, and administrators and encourages

teamwork, open communication, and free exchange of ideas. In its attitudes and

principles, the College affirms the following values and beliefs in providing its programs

and services: Excellence, Integrity, and Innovation.

The College operates under the regulatory environment of the General Assembly

of South Carolina and the South Carolina Commission on Higher Education, the

Southern Association of Colleges and Schools (SACS), the State Board for Technical and

Comprehensive Education, and Federal Title IV Regulations. The Area Commission, the

governance board/policy-making body for the College, works closely with the College's

Executive Leadership Team (senior officers of the College) to fulfill legislative

requirements and make available a program of technical education and training by

providing adequate facilities and local supervision. Its primary stakeholders are students

and employers with secondary partnerships from the county communities, K-12 students,

and other educational institutions. Educational systems that directly compete for the same

type of students, faculty, staff, grants, and other resources are a private four-year

historically black college within two miles of the College and a two-year branch of the

University of South Carolina located next door to the College. Every few years, the

prospects of a merger between the College and the branch campus of the University

emerge in discussions by agencies that regulate the College.

The College adopted the following key strategic goals/directions with approval

from the Area Commission:

1. Market the comprehensive nature and value of the College.

2. Secure and use available resources to maximize productivity and efficiency.

3. Expand enrollment in the four-county service area to improve accessibility to the College's programs and services.

4. Strengthen mutually beneficial alliances with private and public partners.

5. Maximize the use of technology to support internal and external constituencies.

6. Offer quality curriculum and services that are relevant and current.

7. Position the College to respond effectively to internal/external environmental factors.

To provide some background information about the College, excerpts from its

Baldridge Accountability Report are provided. The 2006 Baldridge Accountability

Report for the College identified opportunities to be more successful in meeting its

mission and achieving its strategic goals as well as barriers that could impede its ability

to be successful.

Opportunities	Corresponding Barriers
Support economic development agencies in attracting new businesses and industries by developing a skilled workforce.	Several industries have closed and moved offshore; the industry base needs to be expanded.
Expand Health Sciences programs to meet the needs of service area.	This project will require substantial financial resources.
Participate in the Education and Economic Development Act (EEDA) to build alliances with secondary schools to provide a smooth transition from secondary school to college and/or work.	Additional counseling staff at the College and strong supportive partners at the secondary level are necessary in order to implement the EEDA.
Expand course offerings in outreach counties to meet the needs of residents and reduce barriers caused by gas prices and work commitments.	All available classroom space (day and evening) in one location is being used for classes; additional course offerings will involve securing other facilities or classroom space.
Expand distance education opportunities to reduce barriers caused by gas prices and work commitments.	Training, personnel, and curriculum development will be necessary to expand distance education course offerings.
Coordinate credit and noncredit programs to maximize services to stakeholders.	Communication concerning single focus on mission of the College is required to increase collaborative efforts.

According to the Baldridge report, the accountability report is used to improve organizational performance. The College has engaged in the same planning and evaluation process for at least a decade, involving all departments in the development of comprehensive annual plans of action linked to the College's mission and strategic directions. Each department uses results of the evaluation process to develop the next fiscal year's plans of action in order to continuously improve programs and services.

The College was founded as a technical college in 1961, though its history as a higher education institution goes back to the 1930s. This 47-year old college selected its

seventh President in 2007, a former Vice President for Administration of the College. The College has experienced several years of retrenchment with declining or stable enrollment, decreasing public funding, and signals of a need for change beginning to emerge from the employees.

Shortly after his appointment in the summer of 2007, the President appointed this researcher to lead a team to design and conduct a study to assess the current status of internal customer service in order for subsequent initiatives to be undertaken to improve the internal and external image and service of the College. A sequential, mixed methods research study was conducted revealing significant gaps between expectations and reality along five dimensions of service quality. An external consultant specializing in culture diagnosis was engaged to probe for meaning from the quantitative portion of the study in order to uncover themes in practice that contributed to the significant differences in the quality dimensions.

Data Collection

Data for the study were collected using a web-based survey that combined two instruments. The *Organizational Action Survey* (Johnson & Schwandt, 1998) was a knowledge product of Dr. David Schwandt of The George Washington University's Center for the Study of Learning. It has been used to collect information that helped organizational members understand how their own actions and the actions of others related to organizational learning and the organization's performance. It was designed to gather participants' perceptions about how their organization operated during normal

times as well as during times of stress and change. It answered questions about how organizational goals were achieved, how information flowed through the organization, and how organizational members retrieved and made sense of what had happened and what is happening in the organization. For more information about the design of the instrument as well as about Dr. Schwandt and his research at the Center for the Study of Learning, additional information is available at http://www.gwu.edu/csl/. The *Organizational Culture Assessment Instrument* was a product of Drs. Robert E. Quinn and Kim Cameron of the University of Michigan. It provided for diagnosing the culture of an organization across six dimensions to measure cultural type, strength, and congruence. This instrument has been used extensively in higher education research studies since 1988, including the two-year college. The combined instrument also contained 10 demographic items. Demographic data collected included employee role at the College, employment status, gender, age, ethnicity, and years of service with the college and the South Carolina Technical College System, and level of education.

Instrumentation

A description of the instrumentation used in the study is provided in the following sections. Specifically, separate descriptions of the *Organizational Culture Assessment Instrument* (Cameron & Quinn, 2006) and the *Organizational Action Survey* (Johnson & Schwandt, 1998) are provided, including information about the validity and reliability of these instruments.

Organizational Culture Assessment Instrument (OCAI)

Description of the OCAI

The Organizational Culture Assessment Instrument was developed by Cameron and

Quinn (2006) to diagnose the culture of an organization. Overall organizational culture

contained multiple cultures, but each culture consisted of common traits that constituted

an overarching culture typical of the organization. Assessing organizational culture meant

that these overarching traits were the focus of measurement. According to Cameron and

Quinn (2006), organizational culture referred to the entire organization as the unit of

analysis or to different groups within the organization.   The OCAI contained six

organizational dimensions to measure the culture construct related to different aspects of

the organization: (a) the dominant characteristics, (b) the leadership, (c) the management

of the employees, (d) the bond or "glue" that holds the organization together, (e) the

strategic emphasis of the organization, and (f) the criteria for determining success. For

each of these six dimensions, participants were asked to rate four alternative scenarios,

each representing one of the four cultural types in the Competing Values Framework.

Choice A referred to the clan culture, choice B to the adhocracy culture, choice C to the

market culture, and Choice D to the hierarchy culture. Scenarios were considered

effective means of assessing organizational culture because they served as intimations

which facilitated the emergence of deeper values and assumptions. The effectiveness in

this approach has been supported by studies conducted by Cameron and Freeman (1991)

and Denison (1990). Table 3.1 provides the Organizational Culture Assessment

Instrument as specified by Cameron and Quinn (2006). See Appendix A to see how it

was included in the survey instrument for this research.

Table 3.1 **Organizational Culture Assessment Instrument OCAI**

Dominant Characteristics

A.	The organization is a very personal place. It is like an extended family. People seem to share a lot of themselves.
B.	The organization is a very dynamic and entrepreneurial place. People are willing to stick their necks out and take risks.
C.	The organization is very results oriented. A major concern is getting the job done. People are very competitive and achievement-oriented.
D.	The organization is a very controlled and structured place. Formal procedures generally govern what people do.

Organizational Leadership

A.	The leadership in the organization is generally considered to exemplify mentoring, facilitating, or nurturing.
B.	The leadership in the organization is generally considered to exemplify entrepreneurship, innovation, or risk taking.
C.	The leadership in the organization is generally considered to exemplify a no-nonsense, aggressive, results-oriented focus.
D.	The leadership in the organization is generally considered to exemplify coordinating, organizing, or smooth-running efficiency.

Management of Employees

A.	The management style in the organization is characterized by teamwork, consensus, and participation.
B.	The management style in the organization is characterized by individual risk raking, innovation, freedom, and uniqueness.
C.	The management style in the organization is characterized by hard-driving competitiveness, high demands, and achievement.
D.	The management style in the organization is characterized by security of employment, conformity, predictability, and stability in relationships.

Table 3.1 **Organizational Culture Assessment Instrument OCAI (Continued)**

Organizational Glue

A.	The glue that holds the organization together is loyalty and mutual trust. Commitment to this organization runs high.
B.	The glue that holds the organization together is commitment to innovation and development. There is an emphasis on being on the cutting edge.
C.	The glue that holds the organization together is the emphasis on achievement and goal accomplishment. Aggressiveness and winning are common themes.
D.	The glue that holds the organization together is formal rules and policies. Maintaining a smooth-running organization is important.

Strategic Emphasis

A.	The organization emphasizes human development. High trust, openness, and participation persist.
B.	The organization emphasizes acquiring new resources and creating new challenges. Trying new things and prospecting for opportunities are valued.
C.	The organization emphasizes competitive actions and achievement. Hitting targets and winning in the marketplace are dominant.
D.	The organization emphasizes permanence and stability. Efficiency, control, and smooth operations are important.

Criteria for Success

A.	The organization defines success on the basis of the development of human resources, teamwork, employee commitment, and concern for people.
B.	The organization defines success on the basis of having the most unique or newest products and services. It is a product leader and innovator .
C.	The organization defines success on the basis of winning in the marketplace and outpacing the competition. Competitive market leadership is key.
D.	The organization defines success on the basis of efficiency. Dependable delivery, smooth scheduling, and low cost production are crucial.

Taken from "Diagnosing and Changing Organizational Culture: Based on the Competing Values Framework" by K. S. Cameron and R. E. Quinn, 2006, pp. 26-28. Copyright 2006 by John Wiley & Sons, Inc. Adapted with permission of the author.

Cameron and Quinn (2006) provided researchers with two methods of rating responses by participants to the OCAI survey items, depending on the needs of the researcher. The 24 items in the OCAI were rated by the participants using a Likert-scale or a 100-point allocation method. The Likert-scale version asked participants to rate from 1 to 5 each of the four alternative scenarios in the six organizational dimensions, with 1 being the lowest rating and 5 the highest, and with each scenario representing one of the four cultural types in the Competing Values Framework. The 100-point allocation method asked participants to divide 100 points between the four alternative scenarios in each of the six dimensions, each scenario representing one of the four cultural types in the Competing Values Framework. The Likert scale version provided for a method of measuring the culture type variable whereas the 100-point allocation method provided for a method of differentiating between the culture types.

This study used the five-point Likert-scale version of the OCAI for two main reasons:

1. Other sections in the survey for this study used the five-point Likert-scale items. Having a survey with items using the same scale makes the process of completing the survey easier and faster for the participant. Changing the process from one of selecting from five choices along a scale to one of allocating 100 points among four scenarios may have created confusion and frustration in the respondents and formed an obstacle to complete participation in the data collection. This response was experienced by the participants in another research study for the College where respondents were asked to rank situations by distributing 100 points over five conditions. Comments from the participants indicated that the allocation method of ranking responses was too time-consuming or confusing.

2. Likert-scale items facilitate the data analysis phase of the study by allowing for a greater variety of statistical procedures.

Scoring the Likert-scale version of the OCAI was a relatively straightforward process. Within each of the six organizational dimensions, four scenarios were provided for each category and labeled A for the clan culture, B for the adhocracy culture, C for the market culture, and D for the hierarchy culture. All valid responses in the clan culture (category labeled A) were averaged. The same process was repeated for the responses associated with the other three cultural types. Scores obtained for each of the four cultural types identified the organization's cultural profile. From the scoring, each of the four cultural types received a score at the case, dimension, and organizational level. From these scores, it was possible to determine the dominant cultural type, the strength of each cultural type, and the congruence of the culture across the six organizational dimensions, as explained in the following paragraphs.

From the culture scores described above, the cultural type with the overall highest score for the organization was determined to be the dominant culture for the organization. Moreover, the cultural type with the highest score in each of the six organizational dimensions was determined to be the dominant culture for each of the six organizational dimensions. This data processing and analysis procedure resulted in the identification of a dominant cultural type for the organization and a dominant cultural type for each of the six dimensions of the organization.

The OCAI was unique in its ability to construct a culture profile to identify not only an organization's cultural type, but also its strength and congruence. By observing the overall culture profile of an organization, it was possible to detect the extent to which one or more cultures were strong or dominant in the organization. By viewing the culture

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type scores associated with each of the six dimensions individually, it was possible to detect the extent to which the six categorical dimensions were congruent or heterogeneous.

Cultural strength was a characteristic of an organization's culture profile that referred to the power or preeminence of the culture in affecting what happens in the organization. According to Cameron and Quinn (2006), a culture's strength was dependent on its score in relation to other culture scores. In general, the higher the cultural type score, the stronger the culture and the lower the cultural type score, the weaker the culture (Cameron & Quinn, 2006). The literature was replete with definitions of cultural strength depending on the purpose of the research and the research questions (Deal & Kennedy, 1982; Sathe, 1983; Schein, 1996, 2004; Smart, 2003; Smart & Hamm, 1993; Smart & St. John, 1996; Weick, 1976). In the higher education research studies using the OCAI instrument, a commonly used classification of culture strength was the designation of strong or weak. In this case study of a single organization studied from an institutional level of analysis, the strength of a cultural type was determined by its relationship to the overall mean cultural score and was classified as weak or strong. An organizational culture type mean that was less than or equal to the overall organizational culture mean was classified as a weak culture whereas an organizational culture type mean that was greater than the overall organizational culture mean was classified as a strong culture. This was consistent with the definition of cultural strength proposed by Cameron and Quinn (2006) and the classification of cultural strength used in higher

education research studies using the OCAI (Smart, 2003; Smart & Hamm, 1993; Smart & St. John, 1996).

Cultural congruence within the organization referred to the extent to which various dimensions of organizational culture were aligned with the leadership culture. Assessing cultural congruence required calculating cultural type scores for clan, market, adhocracy, and market cultures separately for each of the six organizational dimensions and assessing the extent to which the culture in the various dimensions was consistent with the leadership dimension. Cameron and Quinn (2006) determined that the measurement of organizational congruence existed in two states: congruent and not congruent. Congruent organizations were those in which the same cultural type was dominant in all six organizational dimensions. Non-congruent organizations were those in which there were different dominant cultural types among the six organizational dimensions. In this study, the culture was considered to be congruent if the same culture type was dominant in all six organizational dimensions.

The survey item wording was modified to reflect the terminology used in higher education and to be consistent with the version of the instrument used in studies of institutional culture at colleges and universities. Moreover, the format of the presentation of the 24 survey items as displayed by Cameron and Quinn (2006) was modified for the survey software. Table 3.2 presents the modified survey items in the *Organizational Culture Assessment Instrument* (Cameron & Quinn, 2006) used in this study to determine the scores of the four culture types based on a five-point Likert scale. The administered survey utilized all 24 survey items to measure four culture types and the six

organizational dimensions. The original reference to scenarios A, B, C, and D in each of

six organizational dimensions was changed to a series of 24 survey items numbered 63

through 86.

Table 3.2 **Measures for Culture Type from the OCAI**

Survey Item	Culture Type
	Clan
63	The institution is a very personal place. It is like an extended family. People seem to share a lot of themselves.
67	The leadership in the institution is generally considered to exemplify mentoring, facilitating, or nurturing.
71	The management style in the institution is characterized by teamwork, consensus, and participation.
75	The glue that holds the institution together is loyalty and mutual trust. Commitment to this institution runs high.
79	The institution emphasizes human development. High trust, openness, and participation persist.
83	The institution defines success on the basis of the development of human resources, teamwork, employee commitment, and concern for people.
	Adhocracy
64	The institution is a very dynamic and entrepreneurial place. People are willing to stick their necks out and take risks.
68	The leadership in the institution is generally considered to exemplify entrepreneurship, innovation, or risk-taking.
72	The management style in the institution is characterized by individual risk-raking, innovation, freedom, and uniqueness.
76	The glue that holds the institution together is commitment to innovation and development. There is an emphasis on being on the cutting edge.
80	The institution emphasizes acquiring new resources and creating new challenges. Trying new things and prospecting for opportunities are values.
84	The institution defines success on the basis of having the most unique or newest programs and services. It is a leader and innovator in providing new programs and services.

Table 3.2 **Measures for Culture Type from the OCAI (Continued)**

	Market
65	The institution is very results-oriented. A major concern is getting the job done. People are very competitive and achievement-oriented.
69	The leadership in the institution is generally considered to exemplify a non-nonsense, aggressive, results-oriented focus.
73	The management style in the institution is characterized by hard-driving competitiveness, high demands, and achievement.
77	The glue that holds the organization together is the emphasis on achievement and goal accomplishment.
81	The institution emphasizes competitive actions and achievement. Hitting targets and winning are dominant.
85	The Institution defines success on the basis of winning in the marketplace and outpacing the competition. Competitive leadership is the key to success.

	Hierarchy
66	The institution is a very controlled and structured place. Formal procedures generally govern what people do.
70	The leadership in the institution is generally considered to exemplify coordinating, organizing, or smooth-running efficiency.
74	The management style in the organization is characterized by security of employment, conformity, predictability, and stability in relationships.
78	The glue that holds the institution together is formal rules and policies. Maintaining a smooth-running institution is important.
82	The institution emphasizes permanence and stability. Efficiency, control, and smooth operations are important.
86	The institution defines success on the basis of efficiency. Dependable delivery, smooth scheduling, and low-cost operation are crucial.

Taken From "Diagnosing and Changing Organizational Culture: Based on the Competing Values Framework" by K. S. Cameron and R. E. Quinn, 2006, p. 26-28. Copyright 2006 by John Wiley & Sons, Inc. Adapted with permission of the author.

Validity and Reliability of the OCAI

The validity and reliability of the *Organizational Culture Assessment Instrument* (Cameron & Quinn, 2006) was tested and supported in studies examining the relationship between organizational culture and variables such as human resource practices (Yeung, Brockbank, & Ulrich, 1991) and quality of life (Quinn & Spreitzer, 1991). A number of higher education studies focused on organizational culture and performance reported that the scales measuring perceptions of the four culture types from the *Organizational Culture Assessment Instrument* had acceptable levels of reliability and validity (Cameron & Ettington, 1988; Cameron & Quinn, 2006; Smart, 2003 Zammuto & Krakower, 1991), providing confidence that the instrument measured what it purported to measure and did so every time it is administered. In a study of 3,406 individuals at 334 institutions, Zammuto and Krakower (1991) concluded that the evidence obtained from their analyses supported the construct validity of the measures and met the criteria of internal consistency. Quinn and Spreitzer (1991) provided evidence for discriminate validity of the culture scales using multidimensional scaling procedures. The reliability estimates of the scales of the four culture types from Quinn and Spreitzer (1991) were represented by the statistically significant Cronbach alpha coefficients. The Cronbach alpha coefficients for the organizational culture scales in the present study are presented in Table 3.3 along with the coefficients from the studies of Zammuto and Krakower (1991), Cameron and Freeman, 1991, and Smart (2003).

Table 3.3 **Cronbach Alpha Coefficients for the OCAI**

Culture Type	Alpha Coefficient (present study)	Alpha Coefficient*	Alpha Coefficient**	Alpha Coefficient***
Clan	.91	.82	.74	.75
Adhocracy	.89	.83	.79	.80
Market	.85	.78	.71	.62
Hierarchy	.67	.67	.73	.62

*Data in column 3 taken from "Quantitative and Qualitative Studies in Organizational Culture" by R. F. Zammuto and J. Y. Krakower, 1991, *Research in Organizational Change and Development, 5,* pp. 83-114.
**Data in column 4 taken from "Cultural congruence, strength, and type: Relationships to effectiveness." by K. S. Cameron and S. J. Freeman, 1991, *Research in Organizational Change and Development, 5,* pp. 23-58.
***Data in column 5 taken from "Organizational effectiveness of 2-year colleges: The centrality of cultural and leadership complexity." by J. C. Smart, 12003, *Research in Higher Education, 44*(6), pp. 673-703.

Organizational Action Survey (OAS)

Description of the Organizational Action Survey

The *Organizational Action Survey* (Johnson & Schwandt, 1998) was used in this study to

collect perception data from administrators, faculty and staff in a two-year

technical/community college relative to actions associated with the ways in which the

institution adapted to its external environment, achieved its goals, coordinated its work

and information, and maintained its culture. These functions corresponded with Schwandt

and Marquardt's (2000) framework for change through performance and learning. In

addition to capturing perceptions of the present actions of the institution, the survey also

inquired about administrator, faculty, and staff perceptions of how the institution reacted

to change. Together, these responses on present actions of the institution and the perception of the College's reaction to change enabled the researcher to investigate the relative performance-to-learning orientation of the institution. The OAS was selected for this study because it was based on the Organizational Learning Systems Model (Schwandt & Marquardt, 2000) which adopted a social perspective of learning and knowledge creation.

The *Organizational Action Survey* (Johnson & Schwandt, 1998) was developed in the mid-1990s by the Center for the Study of Learning at The George Washington University. The main purpose of the OAS was to measure dynamic social actions as they related to organizational performance and learning. More specifically, the survey identified (a) an organization's learning and performance orientation, (b) the functional emphasis of organizational actions as they pertained to the performance and learning subsystems, (c) measures of organizational performance and learning, and (d) organizational sense making patterns (Schwandt & Marquardt, 2000). The theoretical foundation for the survey was based on the Organizational Learning Systems Model (OLSM) developed by Schwandt and Marquardt (2000) and based on Parsons' (1956) general theory of action. Consistent with the Organizational Learning Systems Model and the Parsonian framework was the notion that all organizations possessed four functional capacities that were maintained in order for the organization to survive (Schwandt & Marquardt, 2000).

The *Organizational Assessment Survey* was based on the belief that organizational effectiveness was dependent upon the values of the organization along with the

processes, standards, and actions deemed critical by the organization for the accomplishment of its mission (Johnson, 2000; Parsons, 1956; Schwandt & Marquardt, 2000). The survey instrument, a diagnostic tool, was the result of extensive experience in studying organizations in the public, private, and nonprofit sectors by The George Washington University Center for the Study of Learning by capturing perceptions from participants about organizational actions. The survey measured eight factors or variables, corresponding to the performance and learning orientations across the four prerequisite functions of adaptation, goal attainment, integration, and pattern maintenance (latency). Table 3.4 presents the eight performance and learning factors, or variables, along with a description of organizational actions associated with each factor.

Table 3.4 Organizational Action Survey OAS Learning-Performing Factors

Factor	Description
Learning Factors #1,# 3, #5, and #7	
Factor # 1 Adapting to Environment (Adaptation: Learning or Environmental Interface)	Proactive external interfacing: Seeking out information to meet unanticipated customer needs or emerging markets; proactively gathering data to anticipate consumer or industry trends; tracking competitors, strategic group configurations, customer or supply chain satisfaction.
Factor #3 Attaining Goals (Goal Attainment: Learning or Action and Reflection)	Reflective planning: Reflecting on priorities and goal-oriented actions, critically examining criteria for success, focusing on new knowledge and innovation, creating goals for research and development; emphasizing plausible readiness over planned change approach.
Factor #5 Integration and Coordination (Integration: Learning or Dissemination and Diffusion)	Network idea sharing: Taking opportunities for developing knowledge, skills, and abilities; sharing new insights; collaborating and networking; using situational approaches to resource allocation and communication.
Factor #7 Maintaining Cultural Patterns (Latency: Learning or Memory and Meaning)	Reinforcing flexibility and growth: Valuing individual and organizational development; viewing mistakes as learning opportunities; critically reviewing current standards to meet future needs; recognizing and rewarding intelligent risk-taking; creating a climate of trust and elasticity.
Performance Factors #2, #4, #6, and #8	
Factor #2 Adapting to Environment (Adaptation: Performing or Exchange)	Reactive external interfacing: Responding to intense industry competition or technical changes; reacting to governmental agencies or consumers' requests; adopting new industry standards; market-driven approach.
Factor #4 Attaining Goals (Goal Attainment: Performing or Production)	Production focus prioritizing: Establishing clear performance goals; consistently meeting deadlines; maintaining accountability for achieving goals; having an achievable mission; producing well-established products; emphasizing accurate planning to minimize the unexpected.
Factor #6 Integration and Coordination (Integration: Performing or Coordinating)	Communicating and coordinating effective actions: Implementing changes to make people more effective; holding leaders responsible for decision making; ensuring fair and equitable allocations of resources; enforcing formal/hierarchical communication structure; creating rigorous role responsibilities.
Factor #8 Maintaining Cultural Patterns (Latency: Performing or Reinforcement)	Establishing performance standards: rewarding performance achievement; maintaining established standards; emphasizing systemic equity over flexibility; ensuring consistent values to guide daily activity; minimizing risk-taking and norm deviancy; reinforcing rule-bound reward punishment-based systems.

Taken from "Creating organizational knowledge during transformational change: A multi-site case study using an action theory approach." by M. D. Gorman, 2004, unpublished doctoral dissertation, The George Washington University, p. 129. Copyright 2004 by author. Reprinted with permission of the author.

The survey had three primary components as summarized in Table 3.5 and used

two different scales designed to maximize interpretive capability and confidence. The

five-point Likert scale and the forced-choice scale each provided different insights into

the learning and performing orientations of the organization as perceived by the

participants in the study. The first component of the OAS survey contained 31 items

related to the current daily practice, procedures, and processes of the organization.

Participants evaluated the extent to which their organization carried out its functional

requirements using a five-point Likert scale. The survey items in this component were

used to measure the eight factors or variables for performance and learning actions as

defined in the Organizational Learning Systems Model (Schwandt & Marquardt, 2000).

The second component of the OAS survey contained four forced-choice paired items (8)

about the present actions of the organization with respect to its emphasis on performance

or learning. The third component of the survey contained six forced-choice paired items

(12) ascertaining the participants' perception of the organizations preponderance toward

performance or learning actions when faced with changes in the external environment,

proving insight into the organizational knowledge and perceptions about how change was

approached. The responses from this component provided data for additional analysis

about the four interchange media connecting in six patterns the four functions of the

learning subsystem: new information, goal-referenced knowledge, sense making, and

structuration. The second and third components of forced-choice responses were

collected through this survey but the data were not used in the analysis for this study.

Further, the full OAS instrument also included a fourth component asking participants

about their perceptions concerning what is important to the organization. From a list of

eight actions, participants were asked to rank their top three actions. This component was

omitted from this study. It was also being considered for removal by the developers in the

next version of the instrument (M. D. Gorman, personal communication, February 3,

2007).

Table 3.5 **OAS Scale and Focus**

Scale	Number of Survey Items	Content and Focus
5-point Likert	31	Assessment of daily practices, procedures, and processes; Measures performance and learning actions by the eight variables in the subsystems.
Forced choice	8	Placement of performance/learning emphasis in the present actions of the organization; Orientation toward social actions of performance and learning.
Forced choice	12	In case of change, choices of the organization relative to performance or learning across the interchange media of the subsystems.

The survey administered for this study included 51 items described for the OAS.

However, the items selected for inclusion in this study were the 31 Likert-scale items that

measured the extent to which organizational actions were associated with the four

functions in which all social systems must engage for survival: namely (a) adaptation, (b)

goal attainment, (c) integration, and (d) pattern maintenance or latency for the

performance and learning subsystems. Tables 3.6 and 3.7 describe the survey items

associated with the eight performance and learning factors or variables. The scores for the

eight performance and learning variables defined in Tables 3.6 and 3.7 were calculated as

the mean based on the valid responses in the sets of survey items associated with each of

the eight factors. These eight scores were used in the data analysis.

Table 3.6 **Measures of OAS Performing Factors by the Four Functions**

Survey Item	Performance Factors or Variables
Exchange (Adaptation *performing*)	
1	Frequent technological changes or advances make current programs and services at your institution obsolete.
8	Your institution effectively allocates and distributes organizational resources (e.g., people, technology, equipment, supplies, money).
19	Your institution effectively uses its resources.
37	Your institution effectively identifies and acquires resources to meet its goals.
Production/Service (Goal Attainment *performing*)	
10	Your institution holds work groups and teams accountable for achieving established goals.
36	Your institution has clear performance goals.
39	Due dates for deliverables are consistently met in your institution.
44	Your institution has established an achievable mission.
Coordination (Integration *performing*)	
5	Faculty, staff, and administrators at your institution are held responsible for the decisions they make.
11	Your institution implements changes to enable faculty, staff, and administrators be more effective in doing their jobs.
43	The leaders and managers on your institution have the skills needed to guide institutional change.
45	The programs and services created by groups and teams in your institution are of much higher quality than anyone in your institution could have created alone.
Reinforcement (Latency *performing*)	
7	Your institution uses stories and references to its history to let faculty, staff, and administrators know how they should perform their jobs.
14	Your institution publicly acknowledges faculty, staff, and administrators for outstanding performance and service (e.g., featuring them in newsletters and media, plaques, gifts, etc.).
18	Your institution believes it needs to continuously improve customer service.
38	Your institution has a strong culture of shared values that guide the daily work activities.

Taken from "Organizational Action Survey" by C. G. Johnson and D. R. Schwandt. Copyright 1998 by Center for the Study of Learning, The George Washington University, Ashburn, VA. Adapted with permission.

Table 3.7 **Measures of OAS Learning Factors by the Four Functions**

Survey Item	Learning Factors or Variables

Environmental Interface (Adaptation *learning*)

6	Your institution predicts changes occurring in higher education.
9	Your institution continuously tracks how other institutions improve their programs, services, and processes.
13	Students and employers play a significant role in providing information about the quality of programs and services in your institution.
17	Your institution influences or controls important factors and forces in the environment (e.g., accrediting associations, professional associations, local, state, and federal governmental agencies, legislative delegation, technological innovations, etc.).

**Action and Reflection (Goal Attainment *learning)*

22	Your institution sets goals for researching and developing new programs and services.
46	Faculty, staff, and administrators in your institution learn from one another through informal conversations.
50	Your institution has clear goals for individual and institutional development.

**Dissemination and Diffusion (Integration *learning)*

16	Your institution provides opportunities for faculty, staff, and administrators to develop their knowledge, skills, and capabilities.
21	Your institutional leaders support quick and accurate communication among all faculty, staff, and administrators.
35	There are established ways to share new operational processes and procedures throughout the institution.
42	Your institution has established work groups, teams, networks, and other collaborative arrangements to help the institution adapt and change.

**Memory and Meaning (Latency *learning)*

25	Your institution uses ideas and suggestions from faculty, staff, and administrators.
34	Your institution believes that continuous change is necessary.
41	Mistakes are seen as learning opportunities in your institution.
48	Your institution has a strong culture of shared values supporting individual and institutional development.

Taken from "Organizational Action Survey" by C. G. Johnson and D. R. Schwandt. Copyright 1998 by Center for the Study of Learning, The George Washington University, Ashburn, VA. Adapted with permission.

Validity and Reliability of the OAS

The validity and reliability of the *Organizational Action Survey* (Johnson & Schwandt, 1998) was tested to solidify the strength of the instrument (Johnson, 2000). Correlation analyses enabled Johnson (2000) to select survey items that were appropriate measures for each of the scales in the survey and to validate the extent to which the performance and learning subsystems were actually being measured. The face validity of the survey was tested with an expert panel and other participants. The construct validity was developed through rigorous and meticulous pilot testing where the *Organizational Action Survey* was administered to ten assorted organizations from the public and private sectors, including manufacturing, healthcare, and military organizations. Participation in the pilot testing involved membership from all levels of the organizations (Gorman, 2004).

Cronbach alpha coefficients measure the internal consistency among a group of items combined to form a single scale for a variable (Kerlinger & Lee, 2000). Cronbach alpha coefficients were calculated in this study for the eight performance and learning scales in the survey. Additional studies provided evidence of the reliability of this instrument for measuring performance and learning subsystems (Gorman, 2004; Hunte-Cox, 2004; Moore, 2004). Table 3.8 presents the Cronbach alpha coefficients resulting from this study across the eight factors or variables associated with the survey along with other study results for comparison.

Table 3.8 **Cronbach Alpha Coefficients for the OAS**

Subsystem	Functional Prerequisite	Alpha coefficient *	Alpha coefficient **	Alpha coefficient ***	Alpha coefficient ****
Performance System					
Exchange	Adaptation	.79	.62	.75	.50
Production/Service	Goal Attainment	.74	.76	.86	.71
Coordination	Integration	.78	.76	.76	.74
Reinforcement	Pattern Maintenance or Latency	.67	.71	.53	.75
Learning System					
Environmental Interface	Adaptation	.70	.78	.80	.70
Action and Reflection	Goal Attainment	.69	.64	.80	.62
Dissemination and Diffusion	Integration	.77	.81	.77	.77
Memory and Meaning	Pattern Maintenance or Latency	.80	.74	.77	.71

*Data taken from present study

**Data taken from "A theoretical model of organizational learning and performing action systems: The development and initial validation of a Parsonian action frame of reference through confirmatory factor analysis." by C. G. Johnson, 2000, unpublished doctoral dissertation, The George Washington University, Washington, DC.

***Data taken from "The Correlation of Preceptorships to Organizational Learning and Performance" by M. L. Moore, 2004, unpublished doctoral dissertation, The George Washington University, Washington, DC.

****Data taken from "Executive Succession Planning and Organizational Learning." by D. E. Hunte-Cox, 2004, unpublished doctoral dissertation, The George Washington University, Washington, DC.

The combined instrument also contained 10 demographic items. However, no data analysis by the demographic groups was performed other than to present frequency information. Demographic data collected included employment role and status at the College, gender, age, race/ethnicity, years of service at the College and in higher education, years worked in the private sector, and level of education.

Instrument Pretest

Because items in the *Organizational Action Survey* (Johnson & Schwandt, 1998) and *Organizational Culture Assessment Instrument* (Cameron & Quinn, 2006) were used for the two-year college environment, a review of the instrument was conducted with five administrator, faculty and staff members to identify ambiguities and poorly worded questions. The reviewers also indicated whether the instructions and rating scales were clear and easy to follow (Fraenkel & Wallen, 2000). Two faculty members were selected for the review process based on the results of a snowball technique identifying faculty who knew the most about the culture and actions of the College, based on the question "What informal leader knows how things get done around here?" The three administrative and staff members were selected by the researcher for the review based on their expertise, role, and responsibilities in conducting institutional research for the College through surveys and data extraction methodologies for institutional effectiveness reporting. The review package included a copy of the survey and an evaluation form for submitting feedback to improve the instrument.

Overall, the reviewers indicated that the survey was easy to understand, could be completed in a reasonable length of time, and asked questions that captured their attention. Some minor adjustments were suggested in the wording of some survey items that the reviewers felt would improve the clarity while making the survey item more meaningful for the two-year college environment. The adjustments were incorporated into the final survey where possible. The recommended changes included the following:

1. The reviewers recommended that any reference to "the company, firm, or organization" be changed to "the institution" or "the College" as appropriate to preserve the intent of the survey item. The use of the former terms connoted the corporate environment to the reviewers and their opinion of how the participants would perceive the applicability of the survey to the higher education environment. The recommended change was incorporated into the survey.

2. The reviewers recommended that any reference to "employees" be changed to "administrators, faculty, and staff". While it is a subtle change, the reviewers felt the terminology was more representative of the College and reflected the language used in all communications, publications, and demographics. The recommended change was incorporated into the survey.

3. The reviewers recommended that the forced choice survey items associated with reaction to change and performance-learning orientation preferences be changed such that the acceptable responses were numbered (1) and (2) instead of (a) and (b) to be more consistent with the five-point Likert scale used in the survey items assessing daily practices, procedures, and processes. The researcher consulted with the web-survey administrator and was informed that this request could not be satisfied due to the manner in which the software generated the survey items and their formats. The recommended change was accommodated through clearer instructions in the survey instrument.

4. The reviewers recommended that survey items referencing the use of data and information from stakeholders be more specific. While the College considers students, employers, the communities, K-12 students, and other educational institutions as its stakeholders, it only uses data and information from surveys from its primary stakeholders of students and employers. The faculty were very explicit that this input was valuable and heavily used several times during the academic year, and the survey needed to accurately reflect the source of data. The recommended change was incorporated into the survey.

5. General comments provided by the reviewers indicated the friendliness and appropriateness of the survey. The reviewers liked the fact that the survey mixed the two types of questions: rating and forced choice. This feature kept the respondents interested and alert. They also liked the questions that were asked and felt they were most appropriate for the College's place in time and the current initiative of improving internal and external customer service and working relationships.

Survey Administration

The researcher discussed the research study with the President of the institution in an effort to seek his willingness to participate in the study. The research proposal was reviewed with the President along with the Institutional Review Board application of Clemson University, the communication and administration plan, and timeline for the study. The President discussed the research study proposal with the Executive Leadership Team and approval was received to conduct the research study at the College. Appendices B through I provide the letter of approval along with the communication documents used throughout the administration of the survey. An electronic distribution list of the 302 eligible employees was created by the researcher for use by the President and the researcher throughout the period of the research study.

One week prior to the survey administration, the researcher presented the research proposal to the Council of Deans and Directors, chaired by the Vice President for Academic and Student Affairs, to describe the research study and to solicit their assistance in encouraging faculty and staff to participate. A similar meeting was held with the Vice President for Business Affairs. On the day prior to the start of the survey administration, the President issued a prepared College-wide announcement by electronic

mail using the prepared distribution list regarding the College's support for the research study and encouraging all faculty, staff, and administrators to participate. On the day of the opening of the survey, the researcher sent by electronic mail using the prepared distribution list the previously approved invitation to participate in the research study. The correspondence included the Informational Letter/Informed Consent Form, along with instructions for accessing and completing the survey. Participants were also informed of the appreciation gifts and prizes to be awarded at the end of the process.

During the administration of the survey on March 10-23, 2008, participants were frequently informed by the researcher via electronic mail using the prepared distribution list that they could complete the survey online from any computer with access to the Internet, or alternatively join the researcher who was located in a Main Campus computer-equipped training room from 9:00AM until 3:00PM for the first 10 days of the process, providing refreshments and appreciation gifts as well as technical assistance. The room was setup to be very relaxing for the participants with low lighting and music. The researcher traveled to the three outreach locations for one day following the Main Campus activity with the same assistance and appreciations gifts to employees at the remote campuses in 2-hour blocks.

At the completion of the survey, each participant was presented with a confirmation page acknowledging successful submission of the survey responses. The confirmation page contained an entry form which the participants used if they desired to be included in a drawing for prizes at the end of the survey administration. Participants either mailed their entry form to the researcher or placed it in a designated box in the

reserved room. Persons that participated from the reserved locations received the appreciation gifts at the time of the survey. Those that completed from an alternate location and submitted their confirmation page to the researcher received their appreciation gifts through interoffice mail. The appreciation gifts included a personalized bookmark with a knowledge-appropriate quotation from Adlai E. Stevenson, Jr. on October 8, 1952: "*If we value the pursuit of knowledge, we must be free to follow wherever that search may lead us.*" Also given to the participants were a personalized "Thank You" candy and an envelope containing a range of money from $1 to $20.

The prizes awarded at the end of the process were a $25 gas card, $25 Wal-Mart shopping card, $25 dinner gift certificate to Mr. Friendly's New Southern Café, $30 dinner gift certificate to Solstice Kitchen and Wine Bar, and a $250 gift certificate to the Meeting Street Inn and Bed and Breakfast in Charleston, South Carolina. The winners were announced on April 7, 2008 by e-mail.

<u>Data Processing</u>

Data Processing for the Organizational Action Survey

The scales used in the *Organizational Action Survey* (Johnson & Schwandt, 1998) included items rated on a five-point Likert scale. For each item using the Likert scale, a total of five points was assigned to the most positive responses, whereas the least desirable responses received only 1 point. Items which were skipped or not rated by the respondents were identified as missing values and excluded from the calculations. The five-point Likert scale was used to calculate the eight performance and learning factors or

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variables as well as the total performance and total learning score. Each performance or learning variable consisted of three to four survey items as presented in Tables 3.6 and 3.7. The survey items identified with valid values were averaged to result in a mean score for each of the eight variables. The total learning score was calculated by summing the four learning scores for adaptation (environmental interface), goal attainment (action and reflection), integration (dissemination and diffusion), and latency (memory and meaning). The total performance score was calculated by summing the four performing scores for adaptation (exchange), goal attainment (production/service), integration (coordination), and latency (reinforcement).

Data Processing for the Organizational Culture Assessment Inventory

Cultural Type Mean, Dominant Culture, and Cultural Type Strength

For the institution, respondent ratings for each cultural type were averaged. For example, the institutional clan score was obtained by averaging the survey items associated with the clan culture as presented in Table 3.2. The procedure was repeated for the market, hierarchy, and adhocracy cultures. The culture type with the highest score was determined to be the dominant culture type for the institutions.

A mean culture score across all four culture types was also computed. This value was used to determine the strength of the four culture types. A culture type whose mean score was greater than the overall mean culture score was defined as a strong cultural type. A culture type whose mean score was less than or equal to the overall mean culture score was defined as a weak cultural type.

The cultural type mean, dominant cultural type, and cultural type strength were

developed for the institutional profile in order to remain consistent with other studies

(Cameron & Freemen, 1991; Smart & Hamm, 1993; Smart & St. John, 1996) using the

Organizational Culture Assessment Instrument (Cameron & Quinn, 2006). Only the

cultural type means were used in the correlation analysis or multiple regression. This

study was conducted at the institutional level of analysis with no attempt to determine

differences in performance or learning based on demographic groups within the

institution. Moreover, the research interest was aligned with the premise of the

Competing Values Framework (Cameron & Quinn, 2006) and the blend of cultural types

that lead to institutional effectiveness.

Cultural Congruence

The OCAI asked respondents to rate scenarios related to the six dimensions of the

organization: dominant characteristics, organizational leadership, management of

employees, organizational glue, strategic emphasis and criteria for success. The

effectiveness of organizational culture was dependent up the ability of the leadership to

articulate a consistent vision that was clearly communicated and understood by the

members of the organization (Cameron & Ettington, 1988; Yukl, 2002). From the

leadership's fundamental role in shaping culture (Schein, 2004), cultural congruence

existed when there was harmony between the leadership style and other organizational

attributes (Cameron & Freeman, 1991), somewhat analogous to the relationship between

espoused theory and theory-in-practice (Argyris and Schön, 1978). Measuring cultural

congruence required calculating the clan, market, hierarchy, and adhocracy average score in each of the six organizational dimensions. The organization was considered to have cultural congruence if the dominant cultural type in each of the six dimensions was the same. Otherwise, the organization was considered to have cultural incongruence (Cameron & Quinn, 2006).

Cultural congruence was developed for the institutional study to remain consistent with other studies (Cameron & Freemen, 1991; Smart & Hamm, 1993; Smart & St. John, 1996) using the *Organizational Culture Assessment Instrument* (Cameron & Quinn, 2006) but it was not used in any subsequent data analysis for this study.

Data Analysis

The data from the survey were captured online via the web-based survey software as the respondents answered the questionnaire items. The George Washington University's Center for the Study of Learning extracted the data from the survey respondents in Microsoft Office 2003 Excel file format and transmitted the file via e-mail to the researcher. The researcher saved the file of 192 cases onto the notebook computer used for the research study. The researcher scanned the data and deleted four cases from the data. The first three entries were test cases that had to be removed as directed by the Center for the Study of Learning. A fourth case was removed due to the absence of any responses to the survey items. The result was a file of 188 valid cases which were imported into SPSS. None of the 188 cases were excluded from processing.

Data Analysis Procedures

Descriptive statistics, comparison of the means, Pearson correlation analysis, and multiple regression procedures via SPSS 15.0 (SPSS Inc, 2006) were used to respond to the seven research questions.

Descriptive Statistics

The SPSS *descriptive statistics* procedure was used to develop frequency distributions for the demographic groups. Specifically, descriptive statistics for frequencies and percentages were developed for each of the ten demographics groups: employment role, employment status, age, gender, race/ethnicity, years of experience in higher education, years of experience at the institution, years of experience in the current position, years of experience in the private sector, and level of education.

Comparison of the Means

The SPSS *comparison of the means* procedure was used to develop tables for presenting the means of the twelve variables for culture types, performance subsystems, and learning subsystems for the institution. This procedure was used to respond to the first three research questions.

> *Research Question 1: What are the perceived cultural*
> *types (clan, market, adhocracy, hierarchy) in a selected*
> *two-year technical/community college?*
>
> *Research Question 2: What are the perceived institutional*
> *performance subsystems (exchange, production of programs and*
> *services, coordination, and reinforcement) in a selected*
> *two-year technical/community college?*

*Research Question 3: What are the perceived institutional
learning subsystems (environmental interface, action and
reflection, dissemination and diffusion, and memory and meaning)
in a selected two-year technical/community college?*

The means, standard deviations, and frequencies were developed for the institution level

of analysis. No subsequent data analysis was performed beyond the institutional level of

analysis.

Pearson Correlation

In correlation studies, the researcher seeks to determine if a relationship exists between

two or more quantitative variables. If a relationship is found in the data set, it is likely

that the relationship exists in the population. The correlation coefficient used most often

in the behavioral sciences is the Pearson Product-moment correlation, symbolized by *r*. A

correlation coefficient (*r*) is a decimal number between .00 and ± 1.00 that indicates the

degree to which two quantitative variables are related. It is appropriate when the data

type represents either intervals or scales. It considers every pair of scores and produces

coefficients between .00 and ± 1.00 (Field, 2005; Fraenkel & Wallen, 2000; Grimm &

Yarnold, 1995; Ott & Longnecker, 2001). Correlations between .40 and .60 are often

found in educational research and may have theoretical and practical value, depending on

the context. Hinkle, Wiersma, and Jurs (2003) provided guidance for behavioral science

studies for interpreting the relationship between two variables based on the size of the

correlation coefficient. For example, according to the guidance from Hinkle, Wiersma,

and Jurs (2003), a correlation coefficient of .73 between two variables would be

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interpreted to mean that there is a high positive correlation between the two variables.

The guidelines used in this study are summarized in Table 3.9.

Table 3.9 **Interpretation of the Pearson Correlation Coefficient**

Size of the Pearson Correlation Coefficient	Interpretation of the Relationship
.90 to 1.00	Very high positive correlation
.70 to .90	High positive correlation
.50 to .70	Moderate positive correlation
.30 to .50	Low positive correlation
.00 to .30	Little if any correlation

Pearson correlation analysis was used to determine if relationships existed among the culture type variables and the four subsystem actions for organizational performance, and the four subsystems actions for organizational learning. The intent of the analysis was to understand theoretical relationships between organizational culture types and the subsystems of performance and learning in understanding the phenomenon of change (Grimm & Yarnold, 1995). This procedure was used to respond to research questions four and five.

> *Research Question 4: Are there relationships between the cultural types and the institutional performance subsystems (exchange, production or programs and services, coordination, and reinforcement) in a selected two-year technical/community college?*

> *Research Question 5: Are there relationships between the cultural types and the institutional learning subsystems (environmental interface, action and reflection, dissemination and diffusion, and memory and meaning) in a selected two-year technical/community college?*

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Multiple Regression

The researcher relied on the Organizational Learning Systems Model, Competing Values Framework, the literature and variable selection guidelines (Field, 2005; Grimm & Yarnold, 1995; Ott & Longnecker, 2001) for the final selection of predictors. The researcher selected the *a priori* forced entry method based on knowledge of the Organizational Learning Systems Model, the Competing Values Framework, and literature from higher education about the influence of culture on institutional performance. The researcher subsequently experimented with the stepwise regression method. The results of the stepwise method were identical to the *a priori* method selected by the researcher adding confirmation to the results of the final selection of cultural type predictors.

Research is often divided into studies that use bivariate or multiple regression/correlation by (1) those that attempt to predict events or behavior for practical decision making purposes in applied settings and (2) those that attempt to explain the nature of a phenomenon for purposes of testing or developing theories (Grimm & Yarnold, 1995). Multiple regression was used in this study to determine which of the four cultural types influenced or predicted the capacity for total institutional performance and total institutional learning. In this study, the clan, market, adhocracy, and hierarchy cultural types were the initial predictor variables. Total institutional performance was the predicted criterion in the model for Research question 6. Total institutional learning was the predicted criterion in the model for Research question 7.

In general, the regression equation is the basic unit of the multiple regression analysis. It indicates that to obtain a predicted score for the criterion, the score on each predictor is multiplied by a number specific to that variable called the partial regression coefficient. Two forms of the regression equation are available: raw score regression equation and standard score regression equation. In the raw score regression equation, the coefficients represent the number of units that the outcome will change as a result of one unit change in the predictor variable. In the standard score regression equation, the coefficients represent the number of standard deviations that the outcome will change as a result of a change in the predictor variable. The standard score regression equation form is preferable when the raw score units are not necessarily meaningful. Whereas it is easy to understand the magnitude of a raw score coefficient for variables such as age or weight, it is more difficult to understand the magnitude of a raw score associated with variables such as attitude or culture. Presenting a regression equation in the standard score regression equation form makes it more meaningful to compare the contribution of various predictors. The standard score regression equation was selected for this study due to in order to interpret the results in a more meaning way and allowed for a more understandable comparison of the contribution of various predictors (Grimm & Yarnold, 1995).

Multiple regression was used to respond to Research question 6 and Research question 7, described as follows by research question. The SPSS output results are provided in Appendices J and K, respectively.

Research Question 6:Which cultural types are predictors of
total institutional performance in a selected two-year
technical/community college?

For this study, the four cultural type variables (clan, adhocracy, market, and hierarchy) were introduced into the model for total institutional performance simultaneously in no specific order. Following an analysis of the results of this full model, guidance from the literature, and awareness of the assumptions of the regression methodology, it was determined that the market cultural type had no significance relationship (sig. = .083, α = .05) with the model and was eliminated from the predictors. A subsequent and final multiple regression was performed with the following results.

The ANOVA for the resulting regression model with the three predictors (clan, adhocracy, and hierarchy cultural types) indicated significance (p = .000, F = 103.99, df = 3) for α = .05. Therefore it was concluded that at least one of the predictor variables was significant in predicting total institutional performance.

Subsequently, the significance of the three predictor variables as independent contributors to total institutional performance was tested. The coefficients table in the SPSS output provided in Appendix J indicated significance for the clan cultural type (p = .002), the adhocracy cultural type (p = .000), and the hierarchy cultural type (p = .000). Therefore, all three cultural types were accepted as contributors to total institutional performance.

The linear equation for predicting total institutional performance using the standard score form for this institution was:

Total Institutional Performance = .25 Clan + .48 Adhocracy + .18 Hierarchy
(*Equation 1* Standard Score Regression Equation for Total Institutional Performance)

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Equation 1 specified that to predict total institutional performance for this institution, it was necessary to (1) multiply the institution's score for the clan culture by .25, (2) multiply the institution's score for the adhocracy culture by .48, (3) multiply the institution's score for the hierarchy culture by .18, and (4) add the three products together. The coefficients represent the number of standard deviations that the outcome will change as a result of one standard deviation in the predictor variable. In the standard score form of the regression equation, there was no constant or y-intercept value.

In this model for total institutional performance, the standardized value for the adhocracy culture was approximately three times the size of the standardized value for the hierarchy culture, indicating that the adhocracy culture was almost three times more important than the hierarchy culture in predicting total institutional performance for this institution. Similarly, the standardized value for the clan culture was somewhat more important than the hierarchy culture in predicting total institutional performance. For this institution with a strong and dominant hierarchy culture, the regression model indicates that total institutional performance can be improved by incorporating more of the values of the adhocracy and clan culture types into the campus culture.

According to Licht (2005), Field (2005), and Ott and Longnecker (2001), the primary assumptions to be evaluated for the use of multiple regression were classified by residual scores, specification errors, and measurement errors.

Error or Residual Score Assumption

An error or residual score was the difference between a case's actual observed score on the criterion and the score predicted for the case using the regression equation. It was recommended that these residual scores (1) have a mean of zero, (2) have equal variances at all values of the predictors, and (3) are normally distributed. Moreover, outliers can have undesirable effects. Although these characteristics should be considered when evaluating studies using multiple regression, moderate violations tend not to be problematic (Grimm & Yarnold, 1995). Appendix J contains the SPSS output results of the multiple regression procedure for the criterion total institutional performance using clan, adhocracy, and hierarchy as the predictor variables. From the SPSS table of Residual Statistics, the histogram of regression standardized residuals for the dependent variable total performance, normal P-P plots of regression standardized residual, scatter plots for total performance and the individual variables in the regression for total institutional performance, it was demonstrated that the residual score assumptions were not violated for the regression model for total institutional performance.

Specification Error

A specification error occurred when the relationships among the variables were not linear, relevant predictors were not included in the model, and non-relevant predictors were included in the model. The SPSS output results for total institutional performance in Appendix J demonstrated that the assumption of linearity was met since there was no

evidence of heteroscedasticity, non-linearity, or curvature. Transformational methods were not necessary in this study to achieve linearity.

Measurement Errors

Multicollinearity occurred when two constructs or variables had high intercorrelations, and appeared to measure the same construct. SPSS output provided several tables that assisted the researcher in controlling for multicollinearity. Field (2005) recommended that any predictor variable with a correlation of .80 or higher with the outcome variable be considered for exclusion from the model. Moreover, he indicated that the Variance Inflation Factor (VIF) for any predictor which is greater than 10 should be considered cause for concern. The reciprocal of the VIF is called the Tolerance statistic. Field offered the guideline that any tolerance value less than .2 should be a cause for concern. The SPSS output results presented in Appendix J for total institutional performance indicated that none of these multicollinearity indicators violated the assumptions in this study.

The regression model for total institutional performance did not violate any of the assumptions. The model was therefore accepted as able to accurately predict total institutional performance with the three predictors clan, adhocracy, and hierarchy cultural types explaining 63% of their contribution ($R^2 = .630$) to total institutional performance.

Multiple regression was also used to respond to Research question 7. The SPSS output results are provided in Appendix K, and explained as follows.

Research Question 7: Which cultural types are predictors
of total institutional learning in a selected two-year
technical/community college?

For this study, the four cultural type variables (clan, adhocracy, market, and hierarchy) were introduced into the model for total institutional learning simultaneously in no specific order. Following an analysis of the results of this full model, guidance from the literature, and awareness of the assumptions of the regression methodology, it was determined that the market cultural type had no significance relationship (sig. = .499, α = .05) for the model and was eliminated from the predictors. A subsequent and final multiple regression was performed with the following results.

The ANOVA for the resulting regression model with the three predictors (clan, adhocracy, and hierarchy cultural types) indicated significance (p = .000, F = 115.57, df = 3) for α = .05. Therefore it was concluded that at least one of the predictor variables was significant in predicting total institutional learning.

Subsequently, the significance of the three predictor variables as independent contributors to total institutional learning was tested. The coefficients table in the SPSS output provided in Appendix K indicated significance for the clan cultural type (p = .000), the adhocracy cultural type (p = .000), and the hierarchy cultural type (p = .027). Therefore, all three cultural types were accepted as contributors to total institutional learning.

The linear equation for predicting total institutional learning using the standard score form for this institution was:

Total Institutional Learning = .31 Clan + .49 Adhocracy + .11 Hierarchy.
(*Equation 2* Standard Score Regression Equation for Total Institutional Learning)

Equation 2 specified that to predict total institutional learning for this institution, it was necessary to (1) multiply the institution's score for the clan culture by .31, (2) multiply the institution's score for the adhocracy culture by .49, (3) multiply the institution's score for the hierarchy culture by .11, and (4) add the three products together. The coefficients represented the number of standard deviations that the outcome would change as a result of one standard deviation in the predictor variable. In the standard score form of the regression equation, there was no constant or y-intercept value.

In this model for total institutional learning, the standardized value for the adhocracy culture was approximately four times the size of the standardized value for the hierarchy culture, indicating that the adhocracy culture was almost four times more important than the hierarchy culture in predicting total institutional learning for this institution. Similarly, the standardized value for the clan culture was somewhat more important than the hierarchy culture in predicting total institutional learning. For this institution with a strong and dominant hierarchy culture, the regression model indicated that total institutional learning could be improved by incorporating more of the values of the adhocracy and clan culture types into the campus culture.

According to Licht (2005), Field (2005), and Ott and Longnecker (2001), the primary assumptions to be evaluated for the use of multiple regression were classified by residual scores, specification errors, and measurement errors.

Error or Residual Score Assumption

An error or residual score was the difference between a case's actual observed score on the criterion and the score predicted for the case using the regression equation. It was recommended that these residual scores (1) have a mean of zero, (2) have equal variances at all values of the predictors, and (3) are normally distributed. Moreover, outliers can have undesirable effects. Although these characteristics should be considered when evaluating studies using multiple regression, moderate violations tend not to be problematic (Grimm & Yarnold, 1995). Appendix K contains the SPSS output results of the multiple regression procedure for the criterion total institutional learning using clan, adhocracy, and hierarchy as the predictor variables. From the SPSS table of Residual Statistics, the histogram of regression standardized residuals for the dependent variable total learning, normal P-P plots of regression standardized residual, scatter plots for total learning and the individual variables in the regression for total institutional learning, it was demonstrated that the residual score assumptions were not violated for the regression model for total institutional learning.

Specification Error

A specification error occurred when the relationships among the variables were not linear, relevant predictors were not included in the model, and non-relevant predictors were included in the model. The SPSS results for total institutional learning in Appendix K demonstrated that the assumption of linearity was met since there was no evidence of

heteroscedasticity, non-linearity, or curvature. Transformational methods were not necessary in this study to achieve linearity.

Measurement Errors

Multicollinearity occurred when two constructs or variables had high intercorrelations, and appeared to measure the same construct. SPSS output provided several tables that assisted the researcher in controlling for multicollinearity. Field (2005) recommended that any predictor variable with a correlation of .80 or higher with the outcome variable be considered for exclusion from the model. Moreover, he indicated that the Variance Inflation Factor (VIF) for any predictor which is greater than 10 should be considered cause for concern. The reciprocal of the VIF is called the Tolerance statistic. Field offered the guideline that any tolerance value less than .2 should be a cause for concern. The SPSS results presented in Appendix K for total institutional learning indicated that none of these multicollinearity indicators violated the assumptions in this study.

The regression model for total institutional learning did not violate any of the assumptions. The model was therefore accepted as able to accurately predict total institutional learning with the three predictors clan, adhocracy, and hierarchy cultural types explaining 66% of their contribution ($R^2 = .655$) to total institutional learning.

Summary

This Chapter provided a description of the case study research methodology including the design and procedures utilized to describe and investigate the relationship between the

four cultural types of the Competing Values Framework (Cameron & Quinn, 2006) and the eight performance and learning subsystems of the Organizational Learning Systems Model (Schwandt & Marquardt, 2000). The chapter provided the rationale for the selection of the institution for the case study as well as a description of the institution and its population. A description of the survey instrument was provided identifying the specific survey items from the combined *Organizational Action Survey* (Johnson & Schwandt, 1998) and the *Organizational Culture Assessment Instrument* (Cameron & Quinn, 2006) that were used in calculating the twelve variables for the study. The administration of the study and the data collection method was described along with the use of appreciation gifts and incentives for participation. Evidence of the validity and reliability for the two instruments used in this study and in other studies was provided as well as documentation for testing the assumptions of the multiple regression procedures for the predicted criteria of total institutional performance and total institutional learning.

CHAPTER FOUR

RESULTS OF THE STUDY

This Chapter provides the results of the data analysis described in Chapter 3. The Chapter

presents in sections a description of the institutional characteristics and addresses

chronologically the seven research questions. The purpose of the study was to investigate

within a case study research design the relationship between institutional culture and

performance, and institutional culture and learning in a two-year technical/community

college. The seven research questions guiding the study were as follows.

1. What are the perceived cultural types (clan, adhocracy, market, and hierarchy) in a selected two-year technical/community college?

2. What are the perceived organizational performance subsystems (exchange, production/services, coordination, and reinforcement) and total performance in a selected two-year technical/community college?

3. What are the perceived organizational learning subsystems (environmental interface, action and reflection, dissemination and diffusion, and memory and meaning) in a selected two-year technical/community college?

4. Are there relationships between the cultural types (clan, adhocracy, market, and hierarchy) and the organizational performance subsystems (exchange/allocation of resources, production/services, coordination, and reinforcement) in a selected two-year technical/community college?

5. Are there relationships between the cultural types (clan, adhocracy, market, and hierarchy) and the organizational learning subsystems (environmental interface, action and reflection, dissemination and diffusion, and memory and meaning) in a selected two-year technical/community college?

6. Which cultural types (clan, market, hierarchy, adhocracy) are predictors of total performance in a selected two-year technical/community college?

7. Which cultural types (clan, market, hierarchy, adhocracy) are predictors of total learning in a selected two-year technical/community college?

Organizational culture was operationalized as consisting of the four cultural types defined in the Competing Values Framework: (a) the clan culture, (b) the market culture, (c) the adhocracy culture, and (4) the hierarchy culture (Cameron & Quinn, 2006). Organizational performance and learning were operationalized as consisting of actions in subsystems associated with Parsons' (1956) functional prerequisites. For organizational performance, the four subsystems and related prerequisite functions were (a) exchange associated with the adaptation function, (b) production/service associated with the goal attainment function, (c) coordination associated with the integration function, and (d) reinforcement associated with the pattern maintenance or latency function. For organizational learning, the four subsystems and related prerequisite functions were (a) environmental interface associated with the adaptation function, (b) action and reflection associated with the goal attainment function, (c) dissemination and diffusion associated with the integration function, and (d) memory and meaning associated with the pattern maintenance or latency function (Schwandt & Marquardt, 2000).

To measure organizational culture, performance, and learning, the researcher combined two surveys. The *Organizational Culture Assessment Instrument* (Cameron & Quinn, 2006) focused on revealing the values, beliefs, and assumptions related to the four cultural types in the *Competing Values Framework*. The *Organizational Action Survey* (Johnson & Schwandt, 1998) examined actions related to performance and learning. Concomitantly, the combined survey allowed for measuring 14 variables related to culture, performance and learning, and provided a framework for investigating the relationship of culture, performance and learning at a specific time in the maturation of a

two-year technical/community college. The survey used in the study also included

demographic items related to membership characteristics of the institution.

<u>Description of the Population</u>

Table 4.1 presents the population and response rate for the institution. At the time of the

study in March 2008, the population consisted of 302 administrators, faculty, and staff

members. From the total population invited to participate, 188 employees responded to

the survey providing an overall response rate of 62.3%. Of the institution's 190 full-time

employees, 149 responded for a response rate of 78.4%. Of the institution's 112 part-time

employees, 37 responded for a response rate of 33%.

Table 4.1 **Population and Sample Response Rate**

Employment Status	Total Invited to Participate *(N)*	Total Respondents *(N)*	Percent Response Rate by Status	Percent Institutional Response Rate
Full-Time	190	149	78.4%	
Part-Time	112	37	33.0%	
Total	302	188		62.3%

Note: Two respondents did not specify their employment status as full-time or part-time
and were classified as Not Specified in the subsequent demographic frequencies and
percentages.

Demographic data are provided on the respondents. Specifically, the respondents are described in terms of employment role, employment status, age, gender, race/ethnicity, current educational level, years of experience at this institution, years of experience in higher education, years of experience in private industry, and level of education. Frequencies and percentages are provided in Tables 4.2 through 4.11.

Role

Respondents classified their role at the institution in three categories. The administrator category included the president, vice presidents, academic deans and administrative directors, and supervisors, representing the senior and middle leadership levels of the institution. The faculty category included teaching faculty. The staff category included all other employees. Respondents who did not select a role were classified by default as "Not specified". Table 4.2 presents the frequencies and percentages of the respondents by role.

Table 4.2 **Frequencies and Percentages of Respondents by Role**

Role	Frequency *(N)*	Percent (%)
Administrator	23	12.2
Faculty	86	45.7
Staff	76	40.4
Not Specified	3	1.6

The faculty role classification (N = 86, 45.7%) comprised the largest group of respondents. The second largest group was the staff role classification (N = 76, 40.4%). The smallest group was the administrator role classification (N = 23, 12.2%).

Status

Respondents classified their employment status in two categories. Full-time employment status included administrators, faculty, and staff who were in a non-contractual agreement and working 37.5 hours per week. Part-time employment status included employees who were in an employment agreement with the institution with weekly work hours specified in the contractual agreement. Respondents who did not select an employment status were assigned the default value of "Not specified". Table 4.3 presents the frequencies and percentages of respondents by employment status.

Table 4.3 **Frequencies and Percentages of Respondents by Status**

Status	Frequency *(N)*	Percent (%)
Full-time	149	79.3
Part-Time	37	19.7
Not Specified	2	1.1

The full-time employment status had a higher percentage of respondents (N = 149, 79.3%) than the part-time employment status (N = 37, 19.7%).

Age

Respondents classified their age in increments of 10-year periods beginning with age 21 through 60 years of age. Respondents over 60 years of age were grouped into one category. Respondents who did not specify an age range were assigned the default age range of "Not specified". Table 4.4 presents the frequencies and percentages of respondents by age group.

Table 4.4 **Frequencies and Percentages of Respondents by Age**

Age	Frequency *(N)*	Percent (%)
21 to 30 years	16	8.5
31 to 40 years	25	13.3
41 to 50 years	62	33.0
51 to 60 years	58	30.9
61 years or more	25	13.3
Not specified	2	1.1

The largest percentage of respondents was in the 41 to 50 years age group ($N = 62$, 33.0%). The second largest percentage of respondents was in the 51 to 60 years age group ($N = 58$, 30.9%). For the institution, the demographic frequencies and percentages for the combined age range over 40 years indicated an aging employment workforce at the time of the survey ($N = 145$, 77.2%).

Gender

Respondents specified their gender from the categories of female and male. Those who did not make a selection were assigned the default value of "Not specified". Table 4.5 presents the frequencies and percentages of respondents by gender.

Table 4.5 **Frequencies and Percentages of Respondents by Gender**

Gender	Frequency *(N)*	Percent (%)
Female	127	67.6
Male	57	30.3
Not specified	4	2.1

Table 4.5 shows that the larger gender group of the employees at the institution was female (*N* = 127, 67.6%) with less than half that representation as male employees (*N* = 57, 30.3%).

Race/Ethnicity

Respondents classified their race/ethnicity from a list of codes commonly used at the institution. Table 4.6 presents the frequencies and percentages of respondents by race/ethnicity.

Table 4.6 **Frequencies and Percentages of Respondents by Race/Ethnicity**

Race/Ethnicity	Frequency *(N)*	Percent (%)
Black/African American	31	16.5
Asian or Pacific Islander	1	0.5
Hispanic	2	1.1
White - Non-Hispanic	147	78.2
Unknown	4	2.1
Not Specified	3	1.6

There were two major racial/ethnic groups at the institution responding to the survey. White Non-Hispanic employees ($N = 147$, 78.2%) outnumbered Black/African American employees ($N = 31$, 16.5%) by nearly a factor of five.

Years in Higher Education

Respondents classified the number of cumulative years (continuous or broken) of work experience in higher education. Table 4.7 presents the frequencies and percentages of the respondents by years of experience in higher education.

Table 4.7 **Frequencies and Percentages of Respondents by Years in Higher Education**

Years in Higher Education	Frequency *(N)*	Percent (%)
Less than 1 year	19	10.1
1 year to less than 3 years	35	18.6
3 years to less than 5 years	19	10.1
5 years to less than 10 years	43	22.9
10 years to less than 15 years	24	12.8
15 years or more	48	25.5

The largest group of respondents classified by years of experience in higher education was the range "15 years or more" ($N = 48$, 25.5). The second largest group was the range "5 years to less than 10 years" ($N = 43$, 22.9%). The third largest group was the range "1 year to less than 3 years" ($N = 35$, 18.6%). Overall, the majority of the respondents had worked in higher education for at least five years.

Years at This Institution

Respondents classified their cumulative number of years of experience at this institution. Table 4.8 presents the frequencies and percentages of the respondents by years at this institution.

Table 4.8 **Frequencies and Percentages of Respondents by Years at This Institution**

Years at This Institution	*Frequency (N)*	Percent (%)
Less than 1 year	31	16.5
1 year to less than 3 years	40	21.3
3 years to less than 5 years	21	11.2
5 years to less than 10 years	40	21.3
10 years to less than 15 years	23	12.2
15 years or more	30	16.0
Not specified	3	1.6

The ranges "1 year to less than 3 years" and "5 years to less than 10 years" tied for the largest number of respondents ($N = 40$, 21.3%). The third largest group by years experience at this institution was "15 years or more" ($N = 30$, 16%). Overall, the majority of the respondents had worked at this institution for at least three years.

Years in Current Position

Respondents specified the number of years in which they had been in their current positions at the institution. Table 4.9 presents the frequencies and percentages of the respondents by years in the current position at the institution.

Table 4.9 **Frequencies and Percentages of Respondents by Years in Current Position**

Years in This Position	Frequency *(N)*	Percent (%)
Less than 1 year	36	19.1
1 year to less than 3 years	47	25.0
3 years to less than 5 years	20	10.6
5 years to less than 10 years	42	22.3
10 years to less than 15 years	20	10.6
Not specified	2	1.1

The largest group of respondents classified by years in the current position was "1 year to less than 3 years" ($N = 47$, 25%). The second largest group was "5 years to less than 10 years" ($N = 42$, 22.3%). The third largest group was "Less than 1 year" ($N = 36$, 19.1%). The majority of the respondents were in their current positions less than five years.

Years in Private Industry

Respondents specified the number of years they had worked in private industry. While the intent was to determine the number of respondents with experience in business and industry, some respondents commented to the researcher after completing the survey that they equated work experience in the military with work in private industry. The institution has a large segment of its workforce with prior military experience with many military retirees from the local Air Force Base joining the institution to start a second career. Therefore, this category more accurately indicates the number of years of

experience external to higher education and not specifically the business and industry

sector. Table 4.10 presents the frequencies and percentages of respondents by years of

experience in private industry

Table 4.10 **Frequencies and Percentages of Respondents by Years in Private Industry**

Years in Private Industry	Frequency *(N)*	Percent (%)
Less than 1 year	9	4.8
1 year to less than 3 years	13	6.9
3 years to less than 5 years	20	10.6
5 years to less than 10 years	20	10.6
10 years to less than 15 years	28	14.9
15 years or more	63	33.5
No work in the private sector	33	17.6
Not specified	2	1.1

The results indicated that 17.6% (N = 33) had no experience in the private sector.

The largest group of respondents indicating experience in private industry was the "15

years or more" category (N = 63, 33.5%). Collectively, the respondents indicated that

81.4% (N =153) had work experience external to higher education.

Level of Education

Respondents classified their current level of education from a list of codes commonly used by the institution. Table 4.11 presents the frequencies and percentages of the respondents by their current level of education.

Table 4.11 **Frequencies and Percentages of Respondents by Level of Education**

Level of Education	Frequency *(N)*	Percent (%)
High School Degree	6	3.2
Some College	19	10.1
Associates Degree	31	16.5
Bachelors Degree	25	13.3
Masters Degree	94	50.0
Doctoral Degree	10	5.3
Other	1	0.5
Not specified	2	1.1

The highest degree completed by most respondents was the Masters Degree ($N = 94$, 50%). The second largest group was the Associates Degree ($N = 31$, 16.5%). The third largest group was the Bachelors Degree ($N = 25$, 13.3%). From the respondents, 68.6% ($N = 129$) of the employees had at minimum a Bachelors Degree.

Summary of Descriptive Statistics

The demographics for this institution reflected an educated workforce. Nearly 70% of the employees had at minimum a four-year college degree and half of the employees had a Masters Degree. The majority of the population was white, female, and over 40 years of age, and there was limited cultural diversity. Over four-fifths of the employees worked in private industry prior to employment with the institution and over three-fifths had been in higher education for at least five years. Over 70% had been employed at the institution for less than 10 years with half of the employees in their current positions for less than five years.

Institutional Cultural Profile

*Research Question 1: What are the perceived
cultural types (clan, adhocracy, market, and hierarchy) in
a selected two-year technical/community college?*

The cultural profile for this study was composed of a measure for each of the four cultural types (clan, adhocracy, market, and hierarchy) for the institution expressed as the mean. The means for these four cultural types were subsequently used in the data analysis procedures to determine both correlation and prediction for institutional performance and learning. The Competing Values Framework and the *Organizational Culture Assessment Instrument* (Cameron & Quinn, 2006) also provided the ability to identify additional characteristics of the cultural profile, including dominance, strength, and congruence. These cultural characteristics were developed for presentation of additional information for the institution, but they were not used in subsequent data analysis. In the following sections, the cultural types are presented for the institution.

Perceived Institutional Cultural Types

Participants responded to 24 scenarios describing four cultural types derived from the

Organizational Culture Assessment Instrument (Cameron & Quinn, 2006). They rated

their perceptions of the institution with respect to statements utilizing a 5-point Likert

scale. Table 4.12 presents the means for each of the four cultural types at the institutional

level.

Table 4.12 **Cultural Type Means for the Institution**

Cultural Type	Frequency *(N)*	Mean (*M*)	*SD*
Clan	188	2.91	0.96
Adhocracy	187	2.69	0.84
Market	188	3.00	0.79
Hierarchy	187	3.39	0.60
Overall Cultural Mean	188	3.00	0.61

The hierarchy cultural type ($N = 187$, $SD = .60$) had the highest cultural type

mean ($M = 3.39$) for the institution followed by the market cultural type ($N = 188$, $SD =$

.79, $M = 3.00$). The clan cultural type ($N = 188$, $SD = .96$) had the third highest cultural

type mean ($M = 2.91$) for the institution. The adhocracy cultural type ($N = 188$, $SD = .84$)

had the lowest cultural type mean ($M = 2.69$) for the institution. The overall cultural

mean was 3.00 ($N = 188$, $SD = .61$). The overall cultural mean was the mean of all four

cultural type scores. It was the value used to determine the strength (strong or weak) of a

cultural type. Therefore, the hierarchy cultural type was the dominant cultural type for

this institution because it had the highest mean. Moreover, the hierarchy cultural type was classified as a strong culture because its mean was greater than the overall institutional culture mean. The clan, market, and adhocracy cultural types were classified as the weak cultures because their means were less than or equal to the overall institutional culture mean.

The hierarchy culture, the perceived dominant cultural type for this institution, was characterized by a formalized and structured place to work. Clear lines of decision making authority, standardized rules, control, and accountability were regarded as the keys to success. Procedures governed what individuals did. Effective leaders in this culture were classified as coordinators and organizers with importance placed on a smooth-running organization. The long term concerns of the hierarchy organization were stability, predictability, and efficiency with formal policies that held the organization together.

The institution's second highest culture was perceived to be the market culture. It was oriented toward the external environment instead of internal affairs. With core values of competitiveness and productivity, the objectives of this culture type were results and secure customer bases. Competitiveness and productivity were achieved through an emphasis on external positioning and control. The underlying assumptions of the market culture were that the external environment was hostile, consumers and customers were selectively interested in value, the goal of the organization was to become increasingly competitive, and the major function of management was to provide a clear purpose and aggressive strategy that led to productivity and results.

The clan culture, the third highest score for this institution, was characterized by shared values and goals, teamwork, employee involvement programs, and an organizational commitment to its employees. Visible evidence of a clan culture included semiautonomous work teams that were rewarded for their accomplishments. Customers were regarded as organizational partners. The clan culture was typified as a friendly place to work where people shared a lot of themselves. Leaders were perceived as mentors that shaped the organization, held together by loyalty, tradition, and commitment. The organization emphasized the long-term benefits of individual development, with significant importance placed on cohesion and morale. Success was defined in terms of the internal climate and concern for people in the organization with a premium placed on teamwork, participation, and consensus.

The adhocracy culture, the weakest cultural type for this institution, placed an emphasis on individuality, risk taking, and anticipating the future. Temporary structures were often created to address a specific concern or project, with the structure dissolved at the end of the project. Adhocracy cultures often existed in larger organizations that had a dominant culture of a different type and sometimes were forced to shift to another culture type if the inconsistency with the dominant culture was too great. The adhocracy culture was characterized by a dynamic, entrepreneurial, and creative workplace. Effective leadership was perceived to be innovative, visionary, and risk-oriented. This culture was held together by a commitment to experimentation and innovation with an emphasis on being the leading edge for new knowledge, products, and services. Readiness for change and meeting new challenges were important. The long-term emphasis in this culture was

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on growth and acquiring new resources with success measured in terms of producing

distinctive products and services.

A graphical representation of the institutional culture type profile is presented in

Figure 4.6.
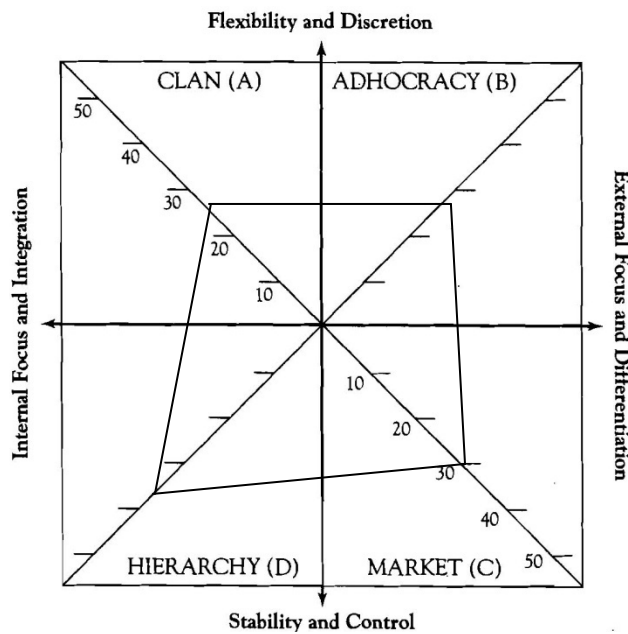
Figure 4.6 **Graphical Representation of the Institutional Cultural Profile.**

From the illustration in Figure 4.6, all four cultural types were present in this

institution. The graphical representation of the four cultural types illustrated the

dominance and strength of the hierarchy cultural type in relation to the clan, market, and

adhocracy cultural types. This indicated that, overall, the institution was perceived to

emphasize control, stability, and differentiation, with an internal focus in addressing

external forces and internal pressures.

In addition to identification of the dominant cultural type and the strength of a culture, the *Organizational Cultural Assessment Instrument* (Cameron & Quinn, 2006) was also able to classify cultural congruence. A congruent culture was defined as a culture in which the same cultural type was the dominant culture in each of the six cultural dimensions of organizational characteristics, organizational leadership, management of employees, organizational glue, strategic emphasis, and criteria for success. Cameron and Quinn (2006) defined cultural congruence as a phenomenon in which the dominant cultural type of the dimension of "Organizational Leadership" also dominated the remaining five dimensions. For this institution, the institutional culture was defined as congruent around the hierarchy cultural type as shown in Table 4.13.

Table 4.13 **Cultural Type Means by Cultural Dimension**

Cultural Dimension	**Clan Mean**	**Adhocracy Mean**	**Market Mean**	**Hierarchy Mean**
Organizational Characteristics	3.08	2.35	3.09	3.44
Organizational Leadership	2.82	2.61	3.07	3.27
Management of Employees	2.91	2.35	3.01	3.05
Organizational Glue	2.82	2.84	2.90	3.51
Strategic Emphasis	2.76	3.11	2.81	3.44
Criteria for Success	3.01	2.86	3.08	3.62

From Table 4.13, the characteristic of cultural congruence was demonstrated with the hierarchy cultural type dominating each of the six culture dimensions. Cultural

congruence indicated that various aspects of an organization's culture were aligned. This implied that stability, predictability, control, and an internal focus were perceived to dominate the general characteristics of the institution, the style of leadership, the manner in which faculty and staff were managed, the values that held the institution together, the emphasis in strategic planning, and the indicators of success by which the institution measured its performance. Organizations with an incongruent culture emphasized different cultural types across the six dimensions. Although not a prerequisite for success, high performing organizations were more likely to have congruent cultures. It usually indicated that the organization was clear about and focused on the same values. Confusion, complications, and disconnects that interfere with performance were often minimized with congruent cultures. While temporary incongruence may have been functional in highlighting areas of the organization that were dysfunctional and in need of change, in the long-run, incongruence inhibited an organization's ability to perform at the highest level of effectiveness (Quinn & Cameron, 2006).

Summary of Institutional Cultural Types

Overall, the hierarchy cultural type was the dominant cultural type for the institution. The hierarchy culture was characterized by a formalized and structured place to work with clear lines of authority. Effective leaders in this culture were classified as coordinators and organizers with importance placed on a smooth-running organization. The long term concerns of the organization were stability, predictability, and efficiency with formal policies that held the organization together.

The hierarchy cultural type was also the strong cultural type for this institution whereas the clan, market, and adhocracy cultural types are the weak cultural types for the institution. Research revealed mixed conclusions about the implications for a strong or weak culture (Nystrom, 1993; Smart & St. John, 1996). Generally, strong cultures were associated with homogeneity of effort, clear focus, and higher performance where unity and vision were required. The extent to which an organization needed a strong culture as opposed to a balanced culture was a matter of circumstance and environment. In circumstances where survival depended on flexibility, innovation, creativity and entrepreneurship, a culture of coordination and control would be much less influential in enabling successful performance. The hierarchy cultural type was identified as an effective culture when the external forces in the environment were relatively stable.

Additionally, the culture of this institution was congruent around the hierarchy culture type, meaning that the hierarchy cultural type dominated all six dimensions of culture with the practices of the institution aligned with its leadership style. This meant that the leadership style of the institution was perceived to value stability, control and predictability with a focus on internal affairs. This perception of the leadership style by the institutional members meant that the same stability, control, predictability, and focus on internal affairs was reflected in the general culture of the institution, the manner in which employees were managed, the social manner in which the institution was bound together, the institutional goals and strategic emphasis of the institution, and the means by which the institution assessed it success. In an environment filled with external forces

and internal pressures to change and reform, the hierarchy culture was not well suited for adaptation and survival.

<div align="center">Institutional Performance</div>

The survey responses related to institutional performance provided data to determine the mean for each of the four institutional performance subsystems (exchange, production/service, coordination, and reinforcement) and the mean for total performance. In the following sections, the performance subsystem means are presented for the institution.

The Organizational Learning Systems Model used in this study contained the four performance subsystems labeled (a) exchange, (b) production/service, (c) coordination, and (d) reinforcement. The *exchange subsystem* acquired and discarded human and material resources necessary to respond to the needs of the organization as it achieved its goals. It provided the performance system with the adaptation prerequisite function (Schwandt & Marquardt, 2000).

The *production/service subsystem* incorporated all actions and processes required by the organization to produce goods and services or reach a goal. This subsystem focused on the traditional management efforts, including the application of knowledge, skills, and abilities to the processes of manufacturing, service, marketing, sales, procurement, research and development, management, finance, planning, and quality assurance. It provided the performance system with the goal attainment prerequisite function (Schwandt & Marquardt, 2000).

The *coordination subsystem* linked human actions and skills with the requisite

task and the standards of performance required in order to integrate separate acts into a

collective effort. This subsystem included the actions associated with management

control processes, job design, career development and training, and organizational

development. It provided the performance system with the integration prerequisite

function (Schwandt & Marquardt, 2000).

The *reinforcement subsystem* contributed to the maintenance of standards and

values that the organization utilized to make judgments about its performance. This

subsystem included the actions associated with performance appraisals, rewards,

compensation, quality standards, feedback, mentoring, and coaching. It provided the

performance system with the pattern maintenance (latency) prerequisite function

(Schwandt & Marquardt, 2000).

The perception of emphasis placed on these four performance subsystems was

measured by the *Organizational Action Survey* (Johnson & Schwandt, 1998) used in this

study, with the findings presented in the following sections. The results were analyzed at

the institutional level.

Perceived Performance Subsystems for the Institution

> *Research Question 2: What are the perceived institutional*
> *performance subsystems (exchange, production/services,*
> *coordination, and reinforcement) and total performance*
> *in a selected two-year technical/community college?*

Participants responded to survey items describing various actions associated with the

performance subsystems derived from the *Organizational Action Survey* (Johnson &

Schwandt, 1998). They rated their perceptions of the institutional actions in each performance subsystem with respect to the statements utilizing a 5-point Likert scale for each statement. Table 4.14 presents the mean for each of the four performance subsystems and the mean for total performance for the institution.

Table 4.14 **Performance Subsystem Means for the Institution**

Performance Subsystem	Frequency *(N)*	Mean *(M)*	*SD*
Exchange	187	3.43	0.74
Production/Service	188	3.67	0.72
Coordination	188	3.57	0.76
Reinforcement	188	3.24	0.79
Total Performance	188	13.90	2.67

The production/service performance subsystem function had the highest mean ($N = 188$, $M = 3.67$). The coordination performance subsystem function had the second highest mean ($N = 188$, $M = 3.57$). The exchange performance system had the third largest mean ($N = 187$, $M = 3.43$). The reinforcement performance subsystem function had the lowest mean ($N = 188$, $M = 3.24$). The overall total performance mean for the institution was 13.90 ($N = 188$).

The highest performance mean in the production/service subsystem indicated that the members of the institution perceived a greater emphasis placed on the human performance subsystem focused on achievement than any of the other three performance

subsystems. The production/service performance subsystem was composed of the actions and processes required to provide a service or achieve a goal. These actions were the focus of typical management activities and included the application of knowledge, skills, and abilities to processes like planning and assessment, procurement, public relations, teaching, and quality assurance.

The institution perceived the least emphasis placed on the reinforcement performance subsystem, composed of actions and processes that contributed to the maintenance of standards and values that the institution used to make judgments concerning its performance. These actions were usually associated with compensation, rewards, feedback, standards of quality, mentoring and coaching.

All four performance subsystems were perceived to be present at this institution.

Summary of Institutional Performance Subsystems

Overall, the respondents perceived that the production/service performance subsystem received the greatest emphasis, followed by the coordination performance subsystem and the exchange performance subsystem. The reinforcement performance subsystem was perceived to receive the least emphasis. The production/service performance subsystem emphasized planning and achieving expected results. The coordination performance subsystem emphasized process integration in order to apply the appropriate knowledge, skills, and expertise toward coordinated tasks, and completed at a level of standard expectations. The production/service and coordination performance subsystems were associated with the ends prerequisite functions of goal attainment and integration in

Parsons' General Theory of Action. This institution placed a greater emphasis on the ends than the means.

Institutional Learning

Research Question 3: What are the perceived institutional learning subsystems (environmental interface, action and reflection, dissemination and diffusion, and memory and meaning) and total learning in a selected two-year technical/community college?

Participants responded to survey items describing various actions associated with the learning subsystems derived from the *Organizational Action Survey* (Johnson & Schwandt, 1998). They rated their perceptions of the institutional actions in each learning subsystem with respect to the statements utilizing a 5-point Likert scale for each statement. Table 4.15 presents the mean for each of the four learning subsystems and the mean for total learning for the institution.

Schwandt and Marquardt (2000) described four organizational learning subsystems in the Organizational Learning Systems Model and labeled them (a) environmental interface, (b) action and reflection, (c) dissemination and diffusion, and (d) meaning and memory. The *environmental interface subsystem* was the learning system component that responded to internal and external influences in the environment, determining through input, filtering, and output the new information that entered the organization. It included such sources as surveys, annual reports, and environmental scanning reports. These actions supported the ability of the organization to adapt.

The *action and reflection subsystem* of the learning system created knowledge from the new information produced by the environmental interface subsystem. Its actions

represented routine operations, actions to achieve goals, or adaptive actions undertaken to meet new goals. New knowledge was created as the organization reflected on its actions and their results. The ability to create new knowledge was dependent on the decision making processes of the organization as well as the ability of the organization to experiment and evaluate results.

The *dissemination and diffusion subsystem* was the learning system component that transferred information and knowledge among the learning subsystems, including formal and informal communication. The ability to deliver information and knowledge to the persons who needed to take action was critical to organizational learning and dependent on the structures in place, including organizational roles, policies, procedures, and group formation.

The *memory and meaning subsystem* of the learning system provided a foundation for other subsystems by creating new values or sustaining existing ones. This function was dependent upon shared understanding, which involved making sense out of new information with respect to existing organizational memory. Organizational memory was manifested in documents, records, databases, routines, and the memories of people. Actions supporting this component included language, symbols, values, and assumptions.

The perception of emphasis placed on these four learning subsystems was measured by the *Organizational Action Survey* (Johnson & Schwandt, 1998) used in this study, with the findings presented in the following sections. The results were analyzed at the institutional level.

Perceived Learning Subsystems for the Institution

Participants responded to survey items describing various actions associated with the four

learning subsystem functions derived from the *Organizational Action Survey* (Johnson &

Schwandt, 1998). The participants rated their perceptions of the learning actions of the

institution using a 5-point Likert scale. Table 4.15 presents the mean for each of the four

learning subsystem functions at the institutional level.

Table 4.15 **Learning Subsystem Means for the Institution**

Learning Subsystem	Frequency *(N)*	Mean (*M*)	*SD*
Environmental Interface	188	3.18	0.75
Action and Reflection	188	3.56	0.77
Dissemination and Diffusion	188	3.46	0.81
Memory and Meaning	188	3.27	0.84
Total Learning	188	13.47	2.78

The action and reflection learning subsystem had the highest mean (N = 188, M =

3.56). The dissemination and diffusion learning subsystem had the second highest mean

(N = 188, M = 3.46) followed by the memory and meaning learning subsystem (N = 188,

M = 3.27). The environmental interface learning subsystem had the lowest mean (N =

188, M = 3.18).

For this institution, the action and reflection learning subsystem was perceived to

receive a greater emphasis than the other learning subsystems. This meant that the

institution was perceived to place a greater emphasis on the social creation of knowledge than on other learning subsystems. The action and reflection learning subsystem represented the goal attainment function of the learning system.

The environmental interface learning subsystem received the lowest score of the four learning subsystems. The environmental interface learning subsystem was the component of the learning system that allowed new information about the environment to enter the learning system, with environmental scanning as a principle manifestation of these actions. For this institution, the environmental interface learning subsystem was perceived to have the least emphasis of the learning subsystems. This indicated that administrators, faculty, and staff at this institution did not perceive the institution to be as involved in efforts to intrude into the environment to analyze the external forces and its impact on the institution in relation to other learning subsystems.

All four learning subsystems existed within the institution. The order of emphasis for the learning subsystems was not necessarily significant. It indicated the perception by members of the institution regarding the perceived areas of emphasis for learning. The action and reflection and dissemination and diffusion learning subsystems were perceived to have the greatest institutional emphasis on learning actions. These two learning subsystems were associated with the ends prerequisite functions of goal attainment and integration in Parsons' General Theory of Action. This institution placed a greater emphasis on the ends of learning than the means. This was the same result found in the performance subsystem.

Summary of Institutional Learning Subsystems

Overall, the order of emphasis on learning subsystems for this institution was action and reflection, dissemination and diffusion, memory and meaning, and environmental interface learning actions. In terms of Parsons' (1956) prerequisite functions, this indicated that the institution emphasized goal attainment over integration, pattern maintenance, and adaptation, in that order. The action and reflection learning subsystem was the knowledge creation component of the learning system and the nucleus of the learning system. With respect to establishing learning goals as well as performance goals for an organization, this institution was perceived by the administration, faculty, and staff collectively to emphasize the importance of the assessment process and to socially construct institutional knowledge from the results of evaluations.

By comparing the performance and learning subsystem scores, it was observed that the performance subsystem scores were higher than the learning subsystem scores for all four prerequisite functions. Based on this finding, the institution had more of a performance orientation to change and reform than a learning orientation, indicating that it emphasized incremental improvements instead of College-wide transformations.

Relationships Between Culture and Institutional Performance

Research Question 4: Are there relationships between the cultural types (clan, adhocracy, market, and hierarchy) and the institutional performance subsystems (exchange/allocation of resources, production/services, coordination, and reinforcement) in a selected two-year technical/community college?

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Adhocracy Cultural Type and Performance Subsystems

A Pearson correlation analysis was performed to assess the relationships between the

mean of the adhocracy cultural type and the four performance subsystems. Table 4.16

presents the results of the correlation analysis.

Table 4.16 **Correlation Analysis of Adhocracy Cultural Type and Performance Subsystems**

Variable	*N*	*M*	*r*	Sig. (2-tailed)
Exchange	187	3.43	0.66	0.00*
Production/Service	187	3.67	0.64	0.00*
Coordination	187	3.57	0.70	0.00*
Reinforcement	187	3.24	0.69	0.00*

* Correlation was significant at the 0.01 level (2-tailed)

A significant correlation existed between the adhocracy cultural type and all four

of the performance subsystems. There was a *high* positive correlation between the

adhocracy cultural type score ($M = 2.69$, $N = 187$) and coordination ($M = 3.57$, $N = 187$,

$r = .70$, p < .01). There were *moderate* positive correlations between the adhocracy

cultural type ($M = 2.69$, $N = 187$) and reinforcement ($M = 3.24$, $N = 188$, $r = .69$, p <

.01), exchange ($M = 3.43$, $N = 187$, $r = .66$, p < .01), and production/service ($M = 3.67$, N

$= 187$, $r = .64$, p < .01).

The strongest subsystem relationship for the adhocracy culture was with the

coordination performance subsystem. The coordination performance subsystem

integrated human knowledge, skills, and abilities with the task to be performed in order that separate tasks led to a successful production effort. The adhocracy culture emphasized flexibility. It was energized by ambiguities in information and driven by inquiry and experimentation that led to innovative solutions. The adhocracy culture placed an emphasis on individuality, risk taking, and anticipating the future. The adhocracy culture was characterized by a dynamic, entrepreneurial, and creative workplace, held together by a commitment to experimentation and innovation with an emphasis on growth. Without the value of inquiry and experimentation valued by the adhocracy culture to challenge current knowledge and the status quo of routine coordination, an organization could become stagnant. Therefore, the adhocracy cultural type was aligned with the purpose of the coordination performance subsystem in developing and integrating the resources that led to successful production and goal achievement.

Market Cultural Type and Performance Subsystems

A Pearson correlation analysis was performed to assess the relationship between the means of the market cultural type and the performance subsystems. Table 4.17 presents the results of the correlation analysis.

Table 4.17 **Correlation Analysis of Market Cultural Type and Performance Subsystems**

Variable	N	M	R	Sig. (2-tailed)
Exchange	187	3.43	.31	0.00*
Production/Service	188	3.67	.33	0.00*
Coordination	188	3.57	.31	0.00*
Reinforcement	188	3.24	.30	0.00*

* Correlation is significant at the 0.01 level (2-tailed)

For the market cultural type ($M = 3.00$, $N = 188$), the correlations were weak with all four performance subsystems.

According to Fraenkel and Wallen (2000), a correlation of .40 to .60 was considered to have practical value for research in higher education. Moreover, a correlation of .35 or less was considered to have little if any value since it explained only about 10% of the relationship. Therefore, although the correlations between the market cultural type and the performance subsystems were significant, the relationships were too weak to have any practical value.

Hierarchy Cultural Type and Performance Subsystems

A Pearson correlation analysis was performed to assess the relationship between the means of the hierarchy cultural type and the performance subsystems. Table 4.18 presents the results of the correlation analysis.

Table 4.18 **Correlation Analysis of Hierarchy Cultural Type and Performance Subsystems**

Variable	N	M	r	Sig. (2-tailed)
Exchange	187	3.43	.40	0.00*
Production/Service	187	3.67	.40	0.00*
Coordination	187	3.57	.40	0.00*
Reinforcement	187	3.24	.43	0.00*

* Correlation is significant at the 0.01 level (2-tailed)

For the hierarchy cultural type ($M = 3.39$, $N = 187$), there were low positive correlations with all four performance subsystems and all correlations indicated significant relationships.

The hierarchy cultural type had a significant correlation with all of the performance subsystems, but its strongest relationship was with the reinforcement performance subsystem. The reinforcement performance subsystem was comprised of the elements that contributed to the maintenance of standards and values that the institution used to make judgments concerning its performance. The hierarchy culture emphasized stability, control, and a focus on internal affairs in order to provide the means for consistency in performance. Therefore, the hierarchy culture type was aligned with the reinforcement subsystem and the maintenance of performance standards and consistent performance with minimal error detection.

Clan Cultural Type and Performance Subsystems

A Pearson correlation analysis was performed to assess the relationship between the means of the clan cultural type and the performance subsystems. Table 4.19 presents the results of the correlation analysis.

Table 4.19 **Correlation Analysis of Clan Cultural Type and Performance Subsystems**

Variable	*N*	*M*	*r*	Sig. (2-tailed)
Exchange	187	3.43	.63	0.00*
Production/Service	188	3.67	.58	0.00*
Coordination	188	3.57	.67	0.00*
Reinforcement	188	3.24	.69	0.00*

* Correlation is significant at the 0.01 level (2-tailed)

There were *moderate* positive correlations between the clan cultural type ($M = 2.91$, $N = 188$) and reinforcement ($M = 3.24$, $N = 188$, $r = .69$, $p < .01$), coordination ($M = 3.57$, $N = 188$, $r = .67$, $p < .01$), exchange ($M = 3.43$, $N = 187$, $r = .63$, $p < .01$), and production/service ($M = 3.67$, $N = 188$, $r = .58$, $p < .01$).

The clan cultural type had a significant correlation with all of the performance subsystems. However, its strongest relationship was with the reinforcement performance subsystem. The reinforcement performance subsystem was comprised of the elements that contributed to the maintenance of standards and values that the institution used to make judgments concerning its performance. The clan culture emphasized cohesion,

consensus, flexibility, and internal affairs. It was comfortable with ambiguity and values

social interactions toward making sense of ambiguities in new information. Therefore,

the clan culture type was aligned with the purpose of the reinforcement performance

subsystem is setting performance standards as well as the discarding of standards that are

no longer useful.

Summary of Relationships of Cultural Types with Institutional Performance

Overall, the findings from this study revealed significant relationships between the

adhocracy, clan, and hierarchy cultural types and the four performance subsystems. The

performance system consisted of all behavior by which an organization disrupted its

situation in order to change through performance actions. The actions associated with

change through performance were represented by the four performance subsystems,

which collectively affected total performance. The *exchange subsystem* was responsible

for acquiring and discarding human and material resources necessary to respond to the

needs of the organization as it achieved its goals. The *production/service subsystem*

incorporated all actions and processes required by the organization to produce goods and

services or reach a goal. The *coordination subsystem* was responsible for linking human

actions and skills with the requisite task and the standards of performance required to

integrate separate acts into the collective effort. The *reinforcement subsystem* contributed

to the maintenance of standards and values that the organization utilized to make

judgments about its performance (Schwandt & Marquardt, 2000).

In order for these four performance subsystems to function dynamically, the cultural values must be present to make judgments about performance in the subsystems. The adhocracy, clan, and hierarchy cultural types had significant relationships with each of the four performance subsystems. The characteristics and values of these three cultures were related to the dynamic process of institutional performance. The exchange performance subsystem had its strongest relationship with the adhocracy cultural type. The exchange performance subsystem was focused on the acquisition of resources to allow the institution to achieve its goals. The long-term emphasis of the adhocracy culture was on institutional growth and acquiring new resources with success measured in terms of producing distinctive products and services. Therefore, the values of the adhocracy culture were aligned with the purpose of the exchange performance subsystem.

The production/service performance subsystem had its strongest relationship with the adhocracy cultural type. The production performance subsystem was focused on the successful achievement of goals and the production of products and services that meet the needs of the customer. The emphasis of the adhocracy culture was on institutional growth with success measured in terms of producing unique and innovative products and services. Therefore, the values of the adhocracy culture were aligned with the purpose of the production/service performance subsystem.

The coordination performance subsystem had its strongest relationship with the adhocracy cultural type. The coordination performance subsystem was focused on the integration of human knowledge, skills, and abilities with the task to be performed in order that separate tasks led to a successful production effort. It was expected that the

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coordination performance subsystem would have a higher correlation with the hierarchy or clan cultural types due to the internal focus of these two cultures. The strength of the correlation between the adhocracy and clan cultural types with the coordination performance subsystem was nearly equal. This may indicate that the complementary values of the adhocracy and clan cultural types are not separable when coordinating resources for the production/service process. Therefore, the adhocracy culture values were aligned with the purpose of the coordination performance subsystem in the integration of new and existing institutional resources that led to the generation of products and services.

The reinforcement performance subsystem had its strongest relationship with the clan cultural type. The reinforcement performance subsystem was focused on the maintenance of standards and values that the organization utilized to make judgments about its performance. The clan culture was characterized by shared values, with visible evidence in work teams that were rewarded for accomplishments. Therefore, the values of the clan cultural type were aligned with the purpose of the reinforcement performance subsystem with respect to the development of performance standards and the recognition and rewards for performance.

Additionally, the hierarchy cultural type had its strongest performance subsystem relationship with the reinforcement subsystem. The hierarchy culture was characterized by clear lines of control and standardized rules and routines. The standardization valued by the hierarchy culture reinforced the established standards of performance. Therefore, the values of the hierarchy cultural type were aligned with the purpose of the

reinforcement performance subsystem with respect to the maintenance of patterns of acceptable behavior.

Overall, the adhocracy, clan, and hierarchy cultural types each had significant relationships with the four performance subsystems. The market cultural type had a significant relationship with the performance subsystems. However, the relationship was very weak and of little practical value. Therefore, for this institution, the adhocracy, clan, and hierarchy cultural types supported the purposes of the performance system and provided the values that the institution used to judge its performance in each of these subsystems.

Relationships between Cultural Types and Institutional Learning

Research Question 5: Are there relationships between the cultural types (clan, adhocracy, market, and hierarchy) and the organizational learning subsystems (environmental interface, action and reflection, dissemination and diffusion, and memory and meaning in a selected two-year technical/community college?

Adhocracy Cultural Type and Learning Subsystems

A Pearson correlation analysis was performed to assess the relationship between the means of the adhocracy cultural type and the learning subsystems. Table 4.20 presents the results of the correlation analysis.

Table 4.20 **Correlation Analysis of Adhocracy Cultural Type and Learning Subsystems**

Variable	*N*	*M*	*R*	Sig. (2-tailed)
Environmental Interface	187	3.18	. 66	0.00*
Action and Reflection	187	3.56	. 65	0.00*
Dissemination and Diffusion	187	3.46	. 67	0.00*
Memory and Meaning	187	3.27	. 75	0.00*

* Correlation is significant at the 0.01 level (2-tailed)

There was a *high* positive correlation between the adhocracy culture type ($M = 2.69$, $N = 187$) and memory and meaning ($M = 3.27$, $N = 187$, $r = .75$, $p < .01$). There were *moderate* positive correlations between the adhocracy culture type ($M = 2.69$, $N = 187$) and dissemination and diffusion ($M = 3.46$, $N = 187$, $r = .67$, $p < .01$), environmental interface ($M = 3.18$, $N = 187$, $r = .66$, $p < .01$), and action and reflection ($M = 3.56$, $N = 187$, $r = .65$, $p < .01$).

The adhocracy cultural type had a significant relationship with all four learning subsystems. However, the adhocracy culture's strongest relationship was with the memory and meaning learning subsystem. The memory and meaning learning subsystem provided the foundation for other subsystems by creating new values or sustaining existing ones. It was dependent upon the ability of the organization to make sense from new information with respect to its existing organizational memory. The adhocracy culture was energized by ambiguities in information and driven by experimentation that leads to innovative solutions. Therefore, the adhocracy culture type was aligned with the

purpose of the memory and meaning learning subsystem by providing the values that

encourage the questioning of existing knowledge, information, and values.

Market Cultural Type and Learning Subsystems

A Pearson correlation analysis was performed to assess the relationship between the

means of the market cultural type and the learning subsystems. Table 4.21 presents the

results of the correlation analysis.

Table 4.21 **Correlation Analysis of Market Cultural Type and Learning Subsystems**

Variable	*N*	*M*	*r*	Sig. (2-tailed)
Environmental Interface	188	3.18	.32	0.00*
Action and Reflection	188	3.56	.22	0.00*
Dissemination and Diffusion	188	3.46	.26	0.00*
Memory and Meaning	188	3.27	.22	0.00*

* Correlation is significant at the 0.01 level (2-tailed)

There was a *low* positive correlation between the market cultural type ($M = 3.00$,

$N = 188$) and the environmental interface ($M = 3.18$, $N = 188$, $r = .32$, $p < .01$). There

were *little if any* correlations between the market cultural type ($M = 3.00$, $N = 188$) and

dissemination and diffusion ($M = 3.46$, $N = 188$, $r = .26$, $p < .01$), action and reflection

($M = 3.56$, $N = 188$, $r = .22$, $p < .01$), and memory and meaning ($M = 3.27$, $N = 188$, $r =$

$.22$, $p < .01$).

According to Fraenkel and Wallen (2000), a correlation of .40 to .60 is considered to have practical value for research in higher education. Moreover, a correlation of .35 or less is considered to have little if any value since it explains only about 10% of the relationship. For this institution, the market cultural type did have a significant correlation with the learning subsystems, but the relationships were not sufficiently strong to be considered as having practical value. Therefore, the market cultural type had no significant relationship with the four learning subsystems.

Hierarchy Cultural Type and Learning Subsystems

A Pearson correlation analysis was performed to assess the relationship between the means of the hierarchy cultural type and the learning subsystems. Table 4.22 presents the results of the correlation analysis.

Table 4.22 **Correlation Analysis of Hierarchy Cultural Type and Learning Subsystems**

Variable	N	M	r	Sig. (2-tailed)
Environmental Interface	187	3.18	.29	0.00*
Action and Reflection	187	3.56	.37	0.00*
Dissemination and Diffusion	187	3.46	.40	0.00*
Memory and Meaning	187	3.27	.37	0.00*

* Correlation is significant at the 0.01 level (2-tailed)

There were *low* correlations between the hierarchy cultural type ($M = 3.39$, $N = 187$) and dissemination and diffusion ($M = 3.46$, $N = 187$, $r = .40$, $p < .01$), memory and meaning ($M = 3.27$, $N = 187$, $r = .37$, $p < .01$)., and action and reflection ($M = 3.56$, $N = 187$, $r = .37$, $p < .01$). There was *little if any* correlation between the hierarchy culture type mean ($M = 3.39$, $N = 187$) and environmental interface ($M = 3.18$, $N = 187$, $r = .29$, $p < .01$).

The hierarchy cultural type had a significant relationship with the dissemination and diffusion, action and reflection, and memory and meaning learning subsystems. However, its strongest subsystem relationship was with the dissemination and diffusion learning subsystem. The dissemination and diffusion learning subsystem focused on the transfer of information and knowledge among all the subsystems, including both formal and informal communication and structures that enabled information and knowledge sharing The hierarchy culture, the perceived dominant cultural type for this institution, was characterized by a formalized and structured place to work with clear lines of authority, rules, roles, and procedures. The long term concerns of the hierarchy culture were stability, predictability, and smooth-running operations. Therefore, the hierarchy culture holds the values for stable and accessible structures that supported the flow of information and knowledge throughout the learning system via the dissemination and diffusion learning subsystem.

Clan Cultural Type and Learning Subsystems

A Pearson correlation analysis was performed to assess the relationship between the means of the clan cultural type and the learning subsystems. Table 4.23 presents the results of the correlation analysis.

Table 4.23 **Correlation Analysis of Clan Cultural Type and Learning Subsystems**

Variable	*N*	*M*	*r*	Sig. (2-tailed)
Environmental Interface	188	3.18	. 53	0.00*
Action and Reflection	188	3.56	. 65	0.00*
Dissemination and Diffusion	188	3.46	. 68	0.00*
Memory and Meaning	188	3.27	. 78	0.00*

* Correlation is significant at the 0.01 level (2-tailed)

There was a *high* positive correlation between the clan cultural type ($M = 2.91$, $N = 188$) and memory and meaning ($M = 3.27$, $N = 188$, $r = .78$, $p < .01$). There were *moderate* positive correlations between the clan cultural type ($M = 2.91$, $N = 188$) and dissemination and diffusion ($M = 3.46$, $N = 188$, $r = .68$, $p < .01$), action and reflection ($M = 3.56$, $N = 188$, $r = .65$, $p < .01$), and environmental interface ($M = 3.18$, $N = 188$, $r = .53$, $p < .01$).

The clan cultural type had significant relationships with the four learning subsystems. However, the clan cultural type had its strongest subsystem relationship with the memory and meaning learning subsystem. The memory and meaning learning

subsystem provided the foundation for other subsystems by creating new values or sustaining existing ones. It was dependent upon the ability of the organization to make sense from new information with respect to its existing organizational memory. The clan culture was characterized by shared values, teamwork, and commitment, emphasizing the importance of cohesion, consensus, and morale. It valued flexibility and ambiguity and the challenge of making sense out of new information and knowledge through collaboration. Therefore, the values of the clan culture found in inquiry and consensus building supported the purpose of the memory and meaning learning subsystem in creating new values and discarding others where applicable.

Summary of Relationships of Cultural Types with Institutional Learning

Overall, the findings from this study revealed that the adhocracy, clan, and hierarchy cultural types had significant relationships with the learning subsystems. The environmental interface learning subsystem responded to influences in the environment. It, determined through filtering techniques the new information that entered the organization and supported the ability of the organization to adapt. The adhocracy cultural type had the strongest relationship with the environmental interface learning subsystem. The adhocracy culture, the weakest cultural type for this institution, placed an emphasis on individuality, risk taking, and anticipating the future. The adhocracy culture was characterized by a dynamic, entrepreneurial, and creative workplace with a readiness for change. This culture was held together by a commitment to experimentation and a desire to be on the leading edge for creating new knowledge, products, and services. The

long-term emphasis in this culture was on growth and acquiring new resources with success measured in terms of producing distinctive products and services. Therefore the values of the adhocracy culture supported the purpose of the environmental interface learning subsystem.

The action and reflection learning subsystem created knowledge from the new information produced by the environmental interface subsystem as the organization reflected on its actions and their results. It was dependent on the ability of the organization to experiment and evaluate results. The adhocracy cultural type had the strongest association with the action and reflection learning subsystem. The adhocracy culture was focused on growth and innovative product and service development, including the discovery of new information, the output of the environmental interface learning subsystem that fed into the action and reflection learning subsystem. Therefore the values of the adhocracy culture supported the purpose of the action and reflection learning subsystem and the creation of knowledge.

The dissemination and diffusion learning subsystem focused on the transfer of information and knowledge among the four learning subsystems. It utilized formal and informal structures that provided the ability to deliver information and knowledge to the persons who needed to take action. The clan cultural type had the strongest relationship with the dissemination and diffusion learning subsystem. The clan culture emphasized the significant importance of cohesion and consensus with a premium placed on internal structures for teamwork that enabled information and knowledge to be shared throughout

the organization. Therefore, the values of the clan culture supported the purpose of the dissemination and diffusion learning subsystem.

Although the hierarchy cultural type did not have the strongest correlation with a learning subsystem, its strongest significant relationship was also with the dissemination and diffusion learning subsystem. The hierarchy culture emphasized stability and control in roles, procedures, and structures that led to consistency in routines and processes. The consistent, stable, predictable, and routine processes valued by the hierarchy culture were aligned with the purpose of the dissemination and diffusion learning subsystem in ensuring that information and knowledge was easily transferred throughout the learning system.

The memory and meaning learning subsystem provided the foundation for other subsystems by creating new values or sustaining existing ones. It was dependent on the ability of the organization to make sense from new information with respect to its existing memory. The clan cultural type had the strongest relationship with the memory and meaning learning subsystem. The clan culture was characterized by shared values and participation. Success was defined in terms of an internal climate concerned for the members of the organization with a premium placed on consensus building when making sense out of ambiguities. Therefore, the values of the clan culture supported the purpose of the memory and meaning learning subsystem in creating new values or sustaining existing ones.

Overall, the adhocracy, clan, and hierarchy cultural types had a significant relationship with the learning subsystems. The market cultural type had significant

correlations with the learning subsystems but the weak relationships did not have

practical value. Therefore, the adhocracy, clan, and hierarchy cultural types supported the

purposes and aims of the learning system by acquiring new information and creating

knowledge for subsequent use and storage.

<div align="center">Predictors of Institutional Performance</div>

*Research Question 6: Which cultural types (clan, market, hierarchy,
adhocracy) are predictors of total performance in a selected
two-year technical/community college?*

For this study, the multiple regression and correlation was used to determine the practical

use of the clan, adhocracy, market, and hierarchy cultures for predicting total institutional

performance. Total institutional performance was the sum of the means of the

performance subsystems labeled exchange, production/service, coordination, and

reinforcement. A multiple regression was performed to identify the institutional cultural

types that contributed to total institutional performance.

The four cultural type variables (clan, adhocracy, market, and hierarchy) were

introduced into the model simultaneously in no specific order. Following an analysis of

the results of this full model, guidance from the literature, and awareness of the

assumptions of the regression methodology, it was determined that the market cultural

type had no significance relationship (sig. = .083) for the model and was eliminated from

the predictors. A subsequent multiple regression was performed with the three remaining

cultural types of adhocracy, clan, and hierarchy. The SPSS output results are provided in

Appendix J. The results of the model are summarized in Table 4.24.

Table 4.24 **Multiple Regression for Total Performance**

Model	B	$SE\ B$	β
Constant	5.01	.712	
Adhocracy	1.52	.250	.48
Hierarchy	.82	.221	.18
Clan	.70	.226	.25

Note $R = .79$, $R^2 = .63$, p < .05

Table 4.24 provides the multiple correlation coefficient (R) and the multiple coefficient of determination (R^2). These were statistically significant at the $\alpha = .05$ with $p < .001$. The multiple correlation coefficient ($R = .79$) indicated the degree of relationship between the linear combination of the clan, adhocracy, and hierarchy culture types and total institutional performance. According to the interpretation guidelines of Hinkle, Wiersma, and Jurs (2003), this regression model had a significantly strong and high positive relationship between the combined culture types of clan, adhocracy and hierarchy and total institutional performance.

The multiple coefficient of determination (R^2) indicated the proportion of variance in the criterion of total institutional performance that was shared by the combination of the predictor variables clan, adhocracy, and hierarchy cultures. The multiple coefficient of determination for this study ($R^2 = .63$) indicated that 63% of the variance in total institutional performance was predictable for the linear combination of the clan, adhocracy, and hierarchy cultures. It followed that ($1 - R^2$) was the proportion of the variance that was not predictable. Therefore, for this study, 37% of the variance in total

institutional performance was not predictable from the clan, adhocracy, and hierarchy cultural types.

Overall, this model indicated that the institution should increase the presence of the characteristics and values of the adhocracy and clan cultures while retaining yet moderating the hierarchy culture in order to increase its capacity to perform.

<u>Predictors of Institutional Learning</u>

Research Question 7: Which cultural types (clan, market, hierarchy, adhocracy) are predictors of learning in a selected two-year technical/community college?

For this study, the multiple regression and correlation was used to determine the utility of the clan, adhocracy, market, and hierarchy cultural types for predicting total institutional learning. Total institutional learning was the sum of the means of the learning subsystems called environmental interface, action and reflection, dissemination and diffusion, and memory and meaning. A multiple regression was performed to identify the institutional culture types that contributed to total institutional learning.

The four cultural type variables (clan, adhocracy, market, and hierarchy) were introduced simultaneously into the model. Following an analysis of the results of this full model, it was determined that the market cultural type had no significance relationship (sig. = .499) for the model and was eliminated from the predictors. A subsequent multiple regression was performed with the three remaining cultural types of adhocracy, clan, and hierarchy. The SPSS output results for this step are provided in Appendix K. The results of the model are summarized in Table 4.25.

Table 4.25 **Multiple Regression for Total Learning**

Model	*B*	*SE B*	β
Constant	4.85	.72	
Adhocracy	1.61	.23	.49
Hierarchy	.50	.25	.11
Clan	.89	.22	.31

Note $R = .81$, $R^2 = .66$, $p < .001$

Table 4.25 provides the multiple correlation coefficient (R) and the multiple coefficient of determination (R^2). These were statistically significant at $\alpha = .05$ with $p < .001$. The multiple correlation coefficient ($R = .81$) indicated the degree of relationship between the linear combination of the clan, adhocracy, and hierarchy culture types and total institutional learning. According to the interpretation guidelines of Hinkle, Wiersma, and Jurs (2003), this regression model revealed a significantly strong and high positive relationship between the combined culture types of clan, adhocracy and hierarchy and total institutional learning.

The multiple coefficient of determination (R^2) indicated the proportion of variance in the criterion of total institutional learning that was shared by the combination of the predictor variables clan, adhocracy, and hierarchy cultures. The multiple coefficient of determination for this study ($R^2 = .66$) indicated that 66% of the variance in total institutional learning was predictable for the linear combination of the clan, adhocracy, and hierarchy cultures. It followed that ($1 - R^2$) was the proportion of the variance that

was not predictable. Therefore, for this study, 34% of the variance in total institutional learning was not predictable from the clan, adhocracy, and hierarchy cultural types.

Overall, this model indicates that the institution should increase the presence of the characteristics and values of the adhocracy and clan cultures while retaining yet moderating the hierarchy culture in order to improve the capacity of the institution to learn.

Summary

Based on the results of this study, it was the perception that this institution contained all four cultural types: clan, adhocracy, market and hierarchy. The values of the hierarchy culture dominated not only the institution, but were congruent across all six dimensions of institutional culture: organizational characteristics, leadership style, management of employees, strategic emphasis, organizational glue, and criteria for success. The hierarchy culture was defined as a strong culture and the clan, market, and adhocracy cultures were defined as weak cultures for this institution.

The faculty, staff, and administrators perceived that all four performance subsystems existed at the institution. The production/service performance subsystem was perceived to receive the greatest emphasis of the performance subsystems, with the least emphasis on the reinforcement performance subsystem.

The faculty, staff, and administrators perceived that all four learning subsystems existed at the institution. The action and reflection learning subsystem was perceived to

have the greatest emphasis of the learning subsystems, with the least institutional emphasis placed on the environmental interface learning subsystem.

Based on the results of the performance and learning subsystem scores, this institution demonstrated a preference for performance actions over learning actions. Moreover, the emphasis on the production/service performance subsystem and the action and reflection learning subsystem together indicated the importance to this institution of the goal attainment function.

The clan, adhocracy, and hierarchy cultures were found to have significant relationships with the performance and learning subsystems and were also predictors of total institutional performance and learning. The market culture was found to have a significant correlation with the performance and learning subsystems, but the relationship was too weak to be of practical value.

CHAPTER FIVE

INTERPRETATIONS AND CONCLUSIONS

This Chapter presents a summary of the research study and a discussion of the findings. The primary objective of this Chapter is to interpret the findings of the study and to draw conclusions from the results. The chapter is organized into six main sections. The first section of this Chapter provides a brief review of the intent of the study. The second section focuses on a summary of interpretations of the results of the study, relating them chronologically to the research questions. The third section presents a discussion of the results by relating the findings to theory and the literature. The fourth section presents the implications and recommendations of the study relative to leadership, practice, and research. The fifth section presents the limitations. Finally, the sixth section presents a closing perspective on the significance of the study.

Review of the Study

The purpose of the study was to investigate the relationship between institutional culture, performance, and learning in a selected two-year technical/community college and to identify cultural types that predict institutional performance and learning capacity. The college was selected by the researcher who has been a member of the institution in various academic and administrative roles for over 25 years. The study was conducted at the institutional level of analysis.

The selected institution was a multi-campus, two-year technical college serving 4,500 credit students and over 10,000 continuing education students annually. Its

legislative charter defined a service region of four rural counties with a combined population of 200,000 residents. At the time of the study in March 2008, the institution had 302 employees, all invited to participate in the study. The executive leadership team consisted of a new president along with two vice presidents. All three advanced to these senior leadership positions from within the institution with combined years of service at the institution exceeding 35 years. Recently, two additional vice presidents were added to the leadership team, one from within the organization, and one from another agency with the state's technical education system.

The seven research questions guiding the study were developed based on the culture construct of Cameron and Quinn (2006) in the Competing Values Framework, and organizational performance and learning constructs of Schwandt and Marquardt (2000) in the Organizational Learning Systems Model. The research questions are:

1. What are the perceived cultural types (clan, market, adhocracy, and hierarchy) in a selected two-year technical/community college?

2. What are the perceived institutional performance subsystems (exchange/allocation of resources, production/services, coordination, and reinforcement) in a selected two-year technical/community college?

3. What are the perceived institutional learning subsystems (environmental interface, action and reflection, dissemination and diffusion, and memory and meaning) in a selected two-year technical/community college?

4. Are there relationships between the culture types and the institutional performance subsystems (exchange/allocation of resources, production/services, coordination, and reinforcement) in a selected two-year technical/community college?

5. Are there relationships between the culture types and the institutional learning subsystems (environmental interface, action and reflection, dissemination and diffusion, and memory and meaning) in a selected two-year technical/community college?

6. What cultural types are predictors of total institutional performance in a selected two-year technical/community college?

7. What cultural types are predictors of total institutional learning in a selected two-year technical/community college?

<u>Interpretation of the Results</u>

This section provides a summary of the interpretation of the results obtained during the data analysis phase of the study and based on the conceptual framework in Figure 1.5 for investigating the relationships between institutional culture, performance and learning. From the organizational culture construct, the conceptual framework used the term cultural type from the Competing Values Framework (Cameron & Quinn, 2006). The four cultural types were the adhocracy, clan, market, and hierarchy cultures. From the organizational performance construct, the conceptual framework used the term performance subsystems from the Organizational Learning Systems Model (Schwandt & Marquardt, 2000), composed of the four subsystems of exchange, production/service, coordination, and reinforcement. From the organizational learning construct, the conceptual framework used the term learning subsystems from the Organizational Learning Systems Model (Schwandt & Marquardt, 2000), composed of the four subsystems of environmental interface, action and reflection, dissemination and diffusion, and memory and meaning.

This section is organized chronologically according to the research questions that guided the study. The interpretations focus on the variables examined in the research questions. Conclusions are provided based on the findings from the study.

Perception of Cultural Types

Research Question 1: What are the perceived cultural types (clan, adhocracy, market, and hierarchy cultural types) in a selected two-year technical/community college?

The culture of an institution is thought to mediate how institutions deal with external forces and internal pressures (Chaffee & Tierney, 1988; Kuh & Whit, 1988). The findings from this study indicate that the hierarchy cultural type is the institution's dominant culture type. Moreover, the hierarchy cultural type is dominant for the six dimensions of the institution's culture: institutional characteristics, organizational leadership, management of employees, organizational glue, strategic emphasis and criteria for success. The dominance of the hierarchy culture is reflected in the majority of the demographic groups. Although all four cultures are contained within the overall campus culture of this institution, the dominance, strength, and congruence of the hierarchy culture prevail as the culture most likely to influence how the institution deals with external forces and internal pressures.

The hierarchy culture emphasizes stability, control, and predictability. It is characterized by the importance of short-term time frames and coordinated activities. The primary bonding mechanisms of the hierarchy culture are policies, procedures, rules, and coordination with a strategic emphasis on permanence and stability. It is an internally-focused culture that concentrates on the inner dynamics of the institution. The hierarchy culture maintains an established set of responses to the external forces and internal pressures that are best suited for a stable environment (Denison, 1990).

While the dominant cultural type indicates the prevailing culture of the organization, the strength and congruence of a culture implies the degree of fit between the cultural values, structure, and strategic plans (Cameron & Freeman, 1991). The strong hierarchy culture type indicates a high degree of congruence between the values and goals of the members of the institution that assist in effectively implementing a strategy. The hierarchy institutional culture reflects values and practices perceived to be commonly shared by the administration, faculty, and staff.

The market culture is the second highest cultural type mean for the institution but defined as a weak culture. The market culture emphasizes stability, control, and predictability. It is characterized by an emphasis on external positioning and achievement-oriented activities. The bonding mechanisms for this culture accentuate goal attainment with a strategic emphasis on competition and achievement. It is an externally-focused culture that concentrates on the external development of the institution. This implies that adaptation and mission statements have priority over internal integration. In the Competing Values Framework, the market and hierarchy cultures are classified as complementary cultures. The common denominator between the hierarchy and market cultures is the preference for stability and certainty.

The clan culture, the third highest cultural type mean for this institution and a weak culture, is characterized by shared values and goals, teamwork, and an organizational commitment to its employees. It places a high importance on cohesion and morale. Visible evidence of a clan culture includes semiautonomous work teams that are rewarded for their accomplishments. The clan culture is typified as a friendly place to

work, held together by loyalty and tradition. Success is defined in terms of the internal climate and concern for people in the organization with a premium placed on teamwork, participation, and consensus.

The adhocracy culture, the weakest cultural type mean for this institution, places an emphasis on individuality, risk taking, and anticipating the future. Temporary structures are often created to address a specific concern or project, with the structure dissolved at the end of the project. Adhocracy cultures often exist in larger organizations that have a dominant culture of a different type. They are sometimes forced to shift to another culture type if the inconsistency with the dominant culture is too great. The adhocracy culture is characterized by a dynamic, entrepreneurial, and creative workplace. It is held together by a commitment to experimentation and a desire to be on the leading edge for new knowledge, products, and services. The long-term emphasis in this culture is on growth and acquiring new resources with success measured in terms of producing distinctive products and services. In the Competing Values Framework, the clan and adhocracy cultures are classified as complementary cultures that share the values of flexibility and comfort in dealing with ambiguities.

Trends from use of the *Organizational Culture Assessment Instrument* (Cameron & Quinn, 2006) in over one thousand organizations provide additional understanding of the cultural type profile. These trends are compared and contrasted with the results for this institution to provide additional meaning. (1) Adhocracy scores are generally rated the lowest culture score for an organization, and fewer organizations are dominated by the adhocracy culture (Cameron & Quinn, 2006). For this institution, the adhocracy

culture score is also the lowest culture score. (2) Over time, organizations gravitate

toward an emphasis on the hierarchy and market cultural types. Once they become

dominated by these cultures, it is increasingly difficult for them to emphasize the

adhocracy and clan culture types, requiring a great deal of effort and leadership to make

the change to a clan or adhocracy culture (Cameron & Quinn, 2006). For this institution,

the hierarchy and market culture types are the two highest cultural means. (3) Paradoxes

exist in cultural profiles, and organizations do not have to be dominated by a culture.

High performing organizations simultaneously emphasize the clan and market cultures or

hierarchy and adhocracy cultures (Cameron & Freeman, 1991). Cameron (1986)

concludes that organizational effectiveness in higher education is highest in institutions

that emphasize innovation and change (adhocracy) and at the same time stability and

control (hierarchy). He also concludes that effective organizations are supportive of and

develop their employees (clan) but also demand achievement form them (market). He

argues that effective organizations are able to behave in flexible and sometime

contradictory ways. They encourage productivity and accomplishment yet also empower

employees and maintain an informal climate. All four culture types are valuable and

necessary. None is better or worse than the others. For this institution, all four cultures

exist within the overall campus culture but they do not have equal strengths.

Overall, the findings of this study reveal that this institution has a strong hierarchy

cultural type that is consistent across all six dimensions of culture. The hierarchy culture

maintains an established set of responses for the environment. It is best suited for a stable

environment (Denison, 1990). The hierarchy cultural type dominance is found in about

20% of the two-year and four-year colleges (Smart & Hamm, 1993; Smart & St. John, 1996; Zammuto & Krakower, 1991). It was prevalent as a governance model in higher education prior to the 1970s. The bureaucratic culture is one of the original images of university organization depicted by Baldridge, Curtis, Ecker, and Riley (1977) and is highly consistent with the structural frame of organizations proposed by Bolman and Deal (2003). In addition to the dominant hierarchy cultural type, the overall institutional culture contains the weaker market, clan, and adhocracy cultures. The market cultural type is found in 6% of colleges (Smart & Hamm, 1993; Smart & St. John, 1996; Zammuto & Krakower, 1991). The clan and adhocracy cultural types collectively represent 63% and 10%, respectively, of the dominant campus cultures in American higher education (Smart & Hamm, 1993; Smart & St. John, 1996; Zammuto & Krakower, 1991).

Conclusion: The results of the study indicate that the cultural profile of the institution is dominated by the characteristics of the hierarchy culture with a preference for stability, control, predictability, and discomfort with flexibility and uncertainty. This perception of the institution presents an environment of values centered on a structured place to work where processes and procedures govern the actions of faculty, staff, and administrators. Formal rules, regulations, and policies aimed at institutional success hold the college together with a focus on stability and permanence through efficient, smooth operations. Employees are given defined roles, and they follow the procedures that outline what they do. Administrators monitor and coordinate the work of employees and determine if there is compliance in their work with the policies and procedures of the

institution. Although the institution is dominated by the hierarchy cultural values, it also contains the values associated with the clan, market, and adhocracy cultures, giving a complex campus culture.

Based on the findings from this study, success in responding to the external forces and internal pressures may be challenging based on this institution's proclivity toward internal stability and predictability and its implied conflict with handing uncertainties. Institutional theory and empirical studies suggest that an institution with a culture that is averse to uncertainties is more likely to delay responses to external pressures and to imitate the responses of others, yielding at best a temporary success (Birnbaum, 2000; DiMaggio & Powell, 1983; Ewell, 1994; Scott, 1995).

Perception of Institutional Performance Subsystems

Research Question 2: What are the perceived institutional performance subsystems (exchange, production/service, coordination, and reinforcement) in selected a two-year technical/community college?

The findings from this study indicate that all four performance subsystems exist at the institution. For this institution, the administrators, faculty, and staff perceive that the production/service performance subsystem receives a greater emphasis than the other three performance subsystems. The production/service performance subsystem incorporates the actions and processes that the institution must perform in order to produce a product or service or reach a goal, including the actions in higher education of planning and assessment. It represents the goal attainment function of the performance system.

The administrators, faculty, and staff perceive that the coordination performance subsystem receives the second highest emphasis. The coordination performance subsystem connects human actions and skills with the requirements of the task and the standards of performance in order to integrate separate actions into the collective effort. Actions include organizational development, management control processes, and job design, including the professional development of employees. The coordination performance subsystem represents the integration function of the performance subsystem.

The administrators, faculty, and staff perceive that the exchange performance subsystem receives the third highest emphasis. The exchange performance subsystem is responsible for acquiring, allocating, and using resources in order to respond to the needs of the organization as it achieves it goals. In higher education, this performance subsystem includes the actions associated with budget development. The exchange performance subsystem represents the adaptation function of the performance subsystem.

The administrators, faculty, and staff perceive that the reinforcement performance subsystem receives the least institutional emphasis. The reinforcement performance subsystem is comprised of elements that contribute to the maintenance of standards and values used by the organization to make judgments concerning its performance. Reinforcement actions include appraisals, rewards, compensations, feedback mechanisms, and mentoring. In higher education, it includes the employee/faculty performance appraisal system in addition to annual recognition with awards for faculty and staff achievement and excellence. The reinforcement performance subsystem provides the pattern maintenance or latency function for the performance system.

The findings from this study reveal the perception of the administrators, faculty, and staff that the institution emphasizes the production/service and coordination performance subsystems of the Organizational Learning Systems Model more than the exchange and reinforcement performance subsystems. This indicates that the members of the institution perceive a greater emphasis on goal attainment and integration functions (ends) than on adaptation and pattern maintenance (means).

The four performance subsystems function interdependently toward enabling the organization to change and adapt to its environment. Each performance subsystem is connected to the other performance subsystems through reciprocating commitment and influence (Schwandt & Marquardt, 2000). Prior research shows that no institution operates effectively on all dimensions (Dill, 1992). Accordingly, performance profiles provide a course-grained analysis of the institution in order to highlight where emphasis is situated. No single performance profile is better than another since strategic constituencies, environmental conditions, contextual factors, and other influences determine what combination is most appropriate for an institution. However, once a profile is identified within a theoretical performance framework, a more fine-grained analysis of performance systems can be made (Dill, 1992; Winn & Cameron, 1998). The development of a holistic and system-oriented performance profile is the gateway to probing for effectiveness and quality in systems at the institutional level.

The Baldridge Model for higher education is a system-oriented non-linear performance framework with components similar to the dynamic Organizational Learning Systems Model. In testing the assumptions of the Baldridge framework for

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higher education, Winn and Cameron (1998) suggest that the main effect of leadership on institutional effectiveness is directly on the four systems of the Baldridge framework and not directly affecting the two outcomes of the systems. Dill (1992) confirms that whether the emphasis is on institutional effectiveness or quality, the performance of an institution is impacted by the influence of leadership on the systems and processes of the institution instead of impacting specifically its performance outcomes.

Conclusion: Leaders influence the actions (systems and processes) of the performance subsystems of exchange, production/service, coordination, and reinforcement which they establish and manage. The performance subsystems function interdependently and there is no correct or best order of emphasis. The key determinant of institutional success is the role of leadership found in gathering and using information (adaption and exchange), planning strategically (goal attainment and production/service), effectively managing and developing faculty, staff, and administrators (latency and reinforcement), and developing processes that produce the intended outcomes (integration and coordination). Therefore, by having a performance system framework and a profile of the institution, leaders are aware of the perceived emphasis areas and are able to determine in an informed manner if the balance is appropriate for achieving the mission of the institution.

Perception of Institutional Learning Subsystems

*Research Question 3: What are the perceived organizational learning
subsystems (environmental interface, action and reflection,
dissemination and diffusion, and memory and meaning)
in a selected two-year technical/community college?*

The findings from this study indicate that all four learning subsystems exist at the institution. For this institution, the administrators, faculty, and staff perceive that the action and reflection learning subsystem, the nucleus of the Organizational Learning Systems Model, receives the highest institutional emphasis with respect to learning. The action and reflection learning subsystem is the goal attainment function of the learning subsystem and the knowledge creation function of the model. It contains the actions aimed at satisfying the learning needs of the organization manifested in experimentation, research, planning and evaluations, critical thinking, problem-solving, and decision making. Its major concern is the creation of knowledge that will add to the ability of the organization to adapt and survive. The output of the action and reflection learning subsystem is goal reference knowledge which is input to the other three learning subsystems.

The administrators, faculty, and staff perceive that the dissemination and diffusion learning subsystem receives the second highest emphasis. The dissemination and diffusion learning subsystem contains the actions directed at coordinating the elements of the learning system manifested in the implementation of roles, leadership, structures, and communication that facilitate the movement of information and goal-reference knowledge. It provides the integration function of the learning system. The output of the dissemination and diffusion learning subsystem is structuring which is input to the other three learning subsystems.

The administrators, faculty, and staff perceive that the memory and meaning learning subsystem receives the third highest emphasis. The memory and meaning

learning subsystem contains the actions that result in the storage of the sense making control processes for the learning system, manifested in the reasoning, evaluating, and creating language and symbols that reflect the values, beliefs, and assumptions of the organization. It provides the pattern maintenance (latency) function of the learning system. The output of the memory and meaning learning subsystem is sense making which is input to the other three learning subsystems.

The administrators, faculty, and staff perceive that the environmental interface learning subsystem receives the least emphasis. The environmental interface learning subsystem is aimed at filtering information which is allowed to enter the learning system from the environment. Action in this subsystem includes environmental scanning. The environmental interface learning subsystem provides the adaptation function. The output of the environmental interface learning subsystem is new information which is input to the other three learning subsystems. New information is the energy that compels the learning system to turn information into actionable knowledge.

The perception of actions via the scores in the four learning subsystems is lower than the perception of actions via the scores in the performance subsystems. This indicates that the institution is oriented more toward performance than learning in its practices. It suggests that the institution prefers incremental performance improvements over substantive institutional change through innovations that diffuse through the institution and become visible in the institutional culture. A parallel emphasis exists in the performance and learning systems with respect to the Parsonian functional prerequisites in the performance and learning subsystems for the institution. In both the

performance and learning systems, the perception of the membership is a greater emphasis on the goal attainment and integration functions (production/service and action and reflection followed by coordination and dissemination and diffusion).

The findings of this study reveal that the faculty, staff, and administrators of the College perceive the actions of the institution to be oriented more toward performance than learning. Moreover, the institution places more emphasis on the goal attainment (production/service and action and reflection) and the integration (coordination and dissemination and diffusion) functions of the performance and learning subsystems than on the adaptation (exchange and environmental interface) and pattern maintenance (reinforcement and memory and meaning) functions. This suggests a greater emphasis on the functional ends than the means with respect to initiating change through both performance and learning actions.

Crosson and Bedrow (2003) argue that an organization must first understand how it learns before it can judge the effectiveness of the learning process. Understanding the process by which an institution learns through a dynamic framework like the Organizational Learning Systems Model makes possible a better comprehension of how to manage institutional learning and foster an environment where it can thrive and prosper.

Conclusion: The findings of this study reveal a perceived order of emphasis on actions in the learning subsystems. There is not necessarily a right or wrong order of emphasis, but it is of great consequence to know the perception of the institution with respect to the process of learning. Instructions, directions, and checklists do not exist for

community college leaders interested in more informed decision making practices for institutional improvements that incorporate the theory of organizational learning. However, a major advancement toward enabling change through learning is attentiveness to the way in which the organization learns as provided in the dynamic and interdependent learning subsystems through the lens of the Organizational Learning Systems Model.

Relationship of Cultural Types to Institutional Performance Subsystems

*Research Question 4: Are there relationships between the cultural types
(clan, adhocracy, market, and hierarchy) and the organizational
performance subsystems (exchange/allocation of resources,
production/services, coordination, and reinforcement)
in a selected two-year technical/community college?*

The findings of this study indicate that the adhocracy, clan, and hierarchy cultural types have significant relationships with all four of the performance subsystems. The adhocracy cultural type has the strongest correlation with the exchange, production/service, and coordination subsystems while the clan cultural type has the strongest correlation with the reinforcement subsystem. Additionally, the hierarchy cultural type has its strongest correlation with the reinforcement performance system. While the market cultural type has significant relationships with the four performance subsystems, they are too weak to be of any practical value.

The exchange performance subsystem has its strongest relationship with the adhocracy cultural type. The exchange performance subsystem focuses on the acquisition of resources that allow the organization to achieve its goals. The long-term emphasis of

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the adhocracy culture is on organizational growth and acquiring new resources with success measured in terms of producing distinctive products and services. Therefore, the stronger the adhocracy culture, the greater the emphasis the institution is likely to place on the actions of the exchange performance subsystem.

The production/service performance subsystem has its strongest relationship with the adhocracy cultural type. The production/service performance subsystem emphasizes the successful achievement of goals and the production of products and services that meet the needs of the customer. The emphasis of the adhocracy culture is on organizational growth with success measured in terms of producing unique and innovative products and services. Therefore, the stronger the adhocracy culture, the greater the emphasis the institution is likely to place on the actions of the production/service performance subsystem.

The coordination performance subsystem has its strongest relationship with the adhocracy cultural type. The coordination performance subsystem focuses on the integration of human knowledge, skills, and abilities with the task to be performed in order that separate tasks lead to a successful production effort. It was expected that the coordination performance subsystem would have a higher correlation with the hierarchy cultural type due to the inward focus of this culture, its preference for stability and control, and the purpose of the coordination subsystem. Research shows that higher education institutions perform more effectively when paradoxes are bolstered within the institution. Campus cultures that simultaneously embrace the competing adhocracy and hierarchy cultures are more effective than campus cultures that emphasize a dominant

culture (Cameron, 1986). This implies that the innovative values of the adhocracy culture are important in counterbalancing the inertia and predictability associated with the hierarchy culture, and supports the premise of the Competing Values Framework. Therefore, the stronger the adhocracy culture, the greater the emphasis the institution is likely to place on establishing effective actions in the coordination performance subsystem.

The reinforcement performance subsystem has its strongest relationship with the clan cultural type. The reinforcement performance subsystem accentuates the maintenance of standards and values that the organization exploits to make judgments and draw conclusions about its performance. The clan culture is characterized by shared values and consensus building, with visible evidence of its existence in work teams that are rewarded for accomplishments. Therefore, the stronger the clan culture, the greater the emphasis the institution is likely to place on the actions of the reinforcement performance subsystem.

Additionally, the hierarchy cultural type has its strongest relationship with the reinforcement performance subsystem. The hierarchy culture is characterized by clear lines of control and standardized rules and routines. The standardization valued by the hierarchy culture reinforces the established standards of performance. The values of the hierarchy cultural type are aligned with the purpose of the reinforcement performance subsystem with respect to the vigor and resilience of patterns of acceptable behavior that lead to consistent performance. Therefore, the stronger the hierarchy culture, the greater

the emphasis the institution is likely to place on the reinforcement system and the promotion of desired behaviors.

While the previous interpretation provides an explanation for the strongest correlation of a cultural type with each individual performance subsystem, it is important to recognize that the adhocracy, clan, and hierarchy cultural types each had significant relationships with all four performance subsystems. This study shows that institutional performance is clearly linked to the culture of a campus. However, the linkage of institutional culture to performance improvement is based on a complexity of cultures instead of a dominant culture. This study confirms previous research that the co-existence of multiple cultural types within this institution are indicators of increased institutional performance (Smart, 2003) and extends the premise of the Competing Values Framework that multiple cultures collectively influence the performance system.

Conclusion: The findings of this study demonstrate that the performance systems of an institution are related to its institutional culture. However, the findings that accrue from this inquiry suggest that the most effective culture is one that incorporates multiple cultural types into a complex campus culture. The findings of this study support the premise of the Competing Values Framework and suggest the efficacy of a blended culture on institutional performance. Therefore, the values of the hierarchy, clan, and adhocracy cultural types should be included in the overall institutional culture of an institution. As a result of the finding that there is a significant relationship with culture and performance systems, it seems reasonable to assume that culture directly influences the systems of a performance system and indirectly influences the outcomes of these

systems. While this study cannot draw that conclusion, it does indicate an area for potential extension of this research.

Relationship of Cultural Types to Institutional Learning Subsystems

> *Research Question 5: Are there relationships between the cultural types (clan, adhocracy, market, and hierarchy) and the organizational learning subsystems (environmental interface, action and reflection, dissemination and diffusion, and memory and meaning) in a selected two-year technical/community college?*

This study reveals that the adhocracy, clan, and hierarchy cultural types have significant relationships with all four learning subsystems. While the market cultural type also has a significant correlation with the learning subsystems, the relationship is too weak to be of any practical value. The adhocracy cultural type has the strongest correlation with the environmental interface and action and reflection learning subsystems while the clan cultural type has the strongest correlation with the dissemination and diffusion and memory and meaning learning subsystems. The hierarchy cultural type has its strongest relationship with the dissemination and diffusion learning subsystem.

The environmental interface is responsible for the set of independent actions that respond to signals from sources internal and external to the organization. These actions are responsible for seeking new information through environmental scanning methods and others which can be dispersed into the other three learning subsystems. Research shows that the acquisition of new information is essential for organizations to continually adapt to turbulent environments (Aguilar, 1967; Cameron & Quinn, 2006; Daft and Weick, 1984). The adhocracy cultural type has the strongest correlation with the

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environmental interface learning subsystem. The adhocracy culture believes that innovative and pioneering initiatives are the basis for success. Its long-term emphasis is on the acquisition of resources, including new information. Therefore, the stronger the adhocracy culture, the greater emphasis the organization is likely to place on intrusive scanning and searching actions within the environmental interface learning subsystem that will bring new information and energy into the learning system for conversion into actionable knowledge, and hence on the adaptation function.

The action and reflection subsystem is responsible for the actions that enable the organization to assign worth and significance to new information and transform it into knowledge that is actionable for the organization. Information brought into the organization from the environment is considered essential energy that fuels the processes that facilitate the creation of knowledge (Schwandt & Marquardt, 2000). The extent to which information is converted into knowledge is defined by the culture (Schein, 2004). The adhocracy cultural type has the strongest correlation with the action and reflection learning subsystem. The adhocracy cultural type reflects an open systems model of organization that is committed to experimentation with new information for use in fashioning innovative products and services as well as creating knowledge. Therefore, the stronger the adhocracy culture, the greater emphasis the organization is likely to place on actions of grasping and securing new information within the action and reflection system learning subsystem and converting information into actionable knowledge, and hence on the goal attainment function.

The dissemination and diffusion learning subsystem facilitates the process of capturing, retrieving and transmitting information and knowledge through structures within the learning system. Information sharing is a richer experience when it is associated with social interaction (Alavi, 2001; Daft & Huber, 1987). Social interaction for engaging in inquiry (Nonaka, 1994) in an environment of trust and security (Mezirow, 2000; Tierney, 2006) is a necessary structure that enables knowledge creation and sharing. The clan cultural type has the strongest correlation with the dissemination and diffusion learning subsystem. The strength of the clan cultural type is attaining agreement on the meaning of new information and knowledge that integrates multiple perspectives. The clan culture personifies a steadfast, self-motivated workforce that compensates for indifference and unresponsiveness (Quinn & Spreitzer, 1991). Therefore, the stronger the clan cultural type, the greater the institution is likely to place on actions and structures that facilitate the dissemination and diffusion learning subsystem, and hence on the integration function.

The memory and meaning subsystem provides the foundation from which the other three learning subsystems draw their control and guidance. It contains the mechanisms that define the criteria for judgment, selection, focus, and control of learning by making sense of their environment. Sense making is represented by language and symbols which enable the actors of the organization to construct the unknown during the social activity of sense making (Weick, 1995). As members learn to cope with new information, knowledge, and problems, they invent, discover, or develop a pattern of shared assumptions which constitutes organizational culture (Schein, 2004). Shared

understanding, values, and meaning are prerequisites for learning in the organization. The clan cultural type has the strongest correlation with the memory and meaning learning subsystem. The notion of collaboration, consensus building, and the importance of shared values and goals are central to the clan culture. The clan culture is often compared to an extended family that emphasizes teamwork, cohesion, and a high level of commitment. Therefore, the stronger the clan culture, the greater the emphasis will be on actions within the memory and meaning learning subsystem for learning and unlearning through sense making, and on the pattern maintenance/latency function.

The hierarchy cultural type has its strongest correlation with the dissemination and diffusion learning subsystem. The dissemination and diffusion learning subsystem uses the actions and structures of communication activities, networking, management, and coordination to facilitate the transporting of information and knowledge throughout the learning system. These actions and structures are typical of the hierarchy culture where managers pride themselves on being efficient and effective coordinators and organizers. The key values of the hierarchy culture focus on maintaining efficient, reliable, and smooth-running operations. When information and knowledge is the target of production, the hierarchy culture develops and maintains the processes and procedures that ensure the fluid movement of information and knowledge throughout the learning system. Therefore, the values of the hierarchy culture are likely to influence sharing and transferring actions and structures within the dissemination and diffusion subsystem, and hence on the integration function.

While the previous interpretation provides an explanation for the strongest correlation of a cultural type with each individual learning subsystem, it is important to recognize that the adhocracy, clan, and hierarchy cultural types have significant relationships with more than one learning subsystem. An explanation toward understanding these cultural relationships with the learning subsystems is found in analyzing the tension (competing values) between exploring for and creating new knowledge and exploiting and using existing knowledge. Acknowledging that the environment is constantly changing, the challenge for organizations is managing the conflict between the embedded institutionalized knowledge and learning from the past, which facilitates the exploitation of learning, and the new information and learning that must be allowed to enter the process of knowledge creation and learning, which stimulates the exploration of learning. These tensions are collectively analogous to the "unlearning" and "learning" concepts (Crosson, Lane, & White, 1999; Schein, 2004). The adhocracy cultural type is aligned with exploration and the feed forward process of learning with its values on experimentation, innovation, and the acquisition of new information. The clan cultural type is aligned with exploitation and the feedback process of learning with its values on sense making, cohesion, and commitment. The hierarchy culture complements the clan culture with a preference for the maintenance of existing values and knowledge while competing with the adhocracy culture in support of adherence to stability and the status quo. Optimally, the adhocracy, clan, and hierarchy cultures work together to ensure there is balance within the organization without the excess of an emphasis in one perspective over another. An extreme emphasis on new

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ideas and innovation can result in no application of learning while a disproportionate

emphasis on exiting knowledge can result in stagnation. The challenge for the leadership

of the institution is to find the proper balance of these cultural types that enables the

dynamic interaction of the organization in shaping its future.

Conclusion: The study concludes that complex campus cultures are related to

institutional learning systems. A learning subsystem is influenced by a blend of cultural

types and not necessarily by a dominant cultural type. Therefore, the values of the

hierarchy, clan, and adhocracy cultural types should be included in the overall culture of

an institution.

Predictors of Institutional Performance

Research Question 6: What cultural types are predictors of
total institutional performance in a selected two-year
technical/community college?

A regression model predicts that the institutional performance capacity of this institution

can be maximized by incorporating the values associated with the adhocracy, clan, and

hierarchy cultural types, providing the institution with a blend of three cultures at this

point in time. This suggests that the institution should seek complexity in its overall

campus culture instead of adopting the cultural values of a specific cultural type in order

to improve performance.

The findings from this study confirm and extend previous research regarding the

influence of complex campus culture on institutional performance. Research studies on

culture and institutional performance generally conclude that the hierarchy cultural type

is associated with lower performing institutions. Researchers recommend that institutions "bend" their hierarchy cultural types to include more of the values and behaviors of the adhocracy and clan cultural types (Cameron & Freeman, 1991; Smart & Hamm, 1993; Smart & St. John, 1996).

The results of this study and previous research lend insight into the dynamic manner in which potentially debilitating external forces, like declining financial conditions and enrollment as well as increasing competition, are factors entering the performance subsystem that have the potential to energize an institution to innovatively adapt. Cameron and Freeman (1991), Smart & Hamm (1993), and Cameron and Tschirhart (1992) concluded that institutions with strong adhocracy and clan cultural types were able to minimize the impact of retrenchment by adapting to external conditions and internal pressures. The influence of retrenchment on institutional performance is subdued in part by decision approaches that were congruent with the adhocracy and clan cultural types, cultures that prefer flexibility and spontaneity and are comfortable with uncertainty. The adhocracy culture prefers a proactive approach to trends and forces in the environment. The adhocracy culture favors external positioning, a long-term focus, innovation, and achievement oriented activities. The clan culture values the opportunity to make meaning out of uncertainty and to engage members of the organization in discussions and dialogue that lead to shared meaning and understanding. The adhocracy and clan cultures are complementary cultures that embrace information uncertainty and flexibility. Members of the organization who share the values of the adhocracy and clan cultures work collaboratively to make sense out of information

uncertainty in order for equilibrium and stability to return to the institution, conditions valued by members aligned with the hierarchy culture. Therefore, it is prudent that two-year college leaders advocate managerial processes that will develop and sustain a culture that permits some measure of entrepreneurialism, innovation, and consensus building, characteristic of the adhocracy and clan cultural types, in addressing the interactions of the institution with its environment.

Conclusion: This study demonstrates that institutional improvement is linked to organizational culture. However, the linkage of culture to performance improvement is based on a complex of cultures instead of a dominant culture as concluded in some previous research. This study confirms the research of Smart (2003) that the co-existence of multiple cultural types within this institution are indicators of higher performance and supports the premise of the Competing Values Framework that multiple cultures collectively influence institutional performance. The study extends the research on institutional culture and performance to conclude that multiple cultures influence the actions of the four performance subsystems.

Predictors of Institutional Learning

Research Question 7: What cultural types are predictors
of total institutional learning in a two-year
technical/community college?

A regression model predicts that the institutional learning capacity of this institution can be maximized by incorporating the values associated with the adhocracy, clan, and hierarchy cultural types, providing the institution with a blend of three cultures at this

point in time. This suggests that the institution should seek complexity in its overall campus culture instead of adopting the cultural values of a specific cultural type in order to improve performance.

The findings of this study are consistent with previous studies that suggest cultural complexity is an indicator of high performance organization and that the institutional culture should be a blend of the appropriate cultures. These studies conclude that the profiles of organizations with complex cultures are more effective than those that emphasize stability, control, and productivity, the values associated with the hierarchy cultural type (Smart, 2003). This study confirms the previous research but extends it also to include the processes involved in learning that lead to the creation, use, and storage of knowledge.

Conclusion: Culture is a key factor that influences the ability of an organization to learn and innovate (Christiansen, 1997; Crosson, Lane, & White, 1999; DeGeus, 1988, 1997), and ultimately improve its performance. Though culture has most often been described as a source of resistance (Schein, 2004) or a defensive routine (Argyris, 1993) to change and learning initiatives, it should be valued for its creative potential as a basis for the interpretation of situations and experiences that promote learning, knowledge creation, and the construction of effective and innovative solutions.

Discussion

The findings of this study demonstrate for this institution a linear relationship between the perceptions of the complexity in the campus culture and perceptions of eight

performance and learning subsystems proposed by Schwandt and Marquardt (2000). The findings pertaining to the relationship between the complexity of the campus culture and the performance subsystems of an institution challenge those obtained in previous research on culture and institutional performance and lead to different conclusions and implications, while those concerning the relationship between the complexity of the campus culture and the learning subsystems of an institution are new but related and indicate the role of campus culture in the organizational learning process. The findings suggest that the Competing Values Framework (Quinn & Cameron, 2006; Quinn & Rohrbaugh, 1983) and the Organizational Learning Systems Model (Schwandt & Marquardt, 2000) have significant potential as conceptual frameworks to guide future research that seeks to investigate factors associated with institutional performance and learning in higher education. Specifically, this study examined the relationship of organizational culture, performance, and learning constructs treating them as variables. Overall, the findings of this study about the relationships of institutional culture, performance, and learning in a selected two-year technical/community college were significant. Therefore, this study provides support for the use of the *Organizational Action Survey* (Johnson & Schwandt, 1998) and the *Organizational Culture Assessment Instrument* (Cameron & Quinn, 2006) to collect data to investigate the relationship between organizational culture, performance, and learning in a two-year technical/community college.

Interest in the research to examine the relationship between the perceptions of campus cultures and the institutional effectiveness of colleges and universities has

increased over the past 20 years. Many research studies use the four-culture typology developed by Cameron and Ettington (1988). The prevailing research design for most of the studies is to determine the dominant cultural type of institutions followed by an assessment of the effectiveness of the institutional performance for institutions as measured on nine performance indicators based on the dominant cultural type of the institutions. The focus of these studies has been to determine a single dominant cultural type for institutions and to ignore the presence of the three other cultural types. This design approach (a) ignored the overall campus culture of an institution since it eliminated consideration of the potential presence of three cultural types and (b) assumed that all dominant cultural type campuses were the same. The studies did not make an allowance for the fact that institutions with the same dominant cultural type may not in point of fact be the same. Institutions with a very strong dominant cultural type may be different from an institution with the same dominant cultural type but with more balance in the other cultural types.

The collective findings from this line of inquiry about the relationship of campus culture to institutional performance consistently reveal a three-layer cultural order. Institutions that have a dominant adhocracy or clan culture are regarded as being the most effective. Institutions that have a dominant market culture are in the middle stratum of effectiveness. Institutions that have a dominant hierarchy culture are regarded as the least effective (Cameron & Ettington, 1988; Cameron & Freeman, 1991; Smart & Hamm, 1993; Smart & St. John, 1996). The findings of these studies demonstrate that perceptions of the cultural emphasis placed on the hierarchy cultural type have a strong negative

relationship with essentially all effectiveness indicators. The implications for practice from this inquiry stream to campus leaders in their efforts to improve performance has been to seek an overall campus culture that emphasizes the attributes of the clan and adhocracy culture and that rejects any effort to emphasize the attributes of the hierarchy cultural type.

The approach of this study was guided by the premise of the Competing Values Framework to respect the presence of all cultural types in the overall campus culture when investigating the influence of culture on institutional performance and learning. The findings of this study support the premise of the Competing Values Framework by demonstrating that multiple cultural types for this institution are related to institutional performance and learning subsystems of the Organizational Learning Systems Model. These findings suggest that reliance on more than one cultural type leads to the increased capacity of an institution to perform and learn. It also suggests a different conclusion and more exigent implications for leadership and practice. For this study, the findings suggest that the campus leadership should develop an overall campus culture that incorporates the adhocracy, clan, and hierarchy cultural types. For this institution, the market cultural type was found to provide no significant contribution to the ability of the institution to perform and learn.

This study adopted the view that knowledge is socially constructed as groups of individuals engage in dialogue around shared tasks or problems (Merriam & Cafarella, 1999) and that learning and performance are non-linear dynamic processes. The value of the knowledge created is determined by the extent to which it helps the organization

achieve its goals. This social construction of knowledge perspective by the researcher guided the decision to use the Organizational Learning Systems Model (Schwandt & Marquardt, 2000) over other frameworks. The researcher was interested in the process of learning in a two-year technical/community college and the influence of culture on choices of actions made by the institution in performance and learning. The findings from this study also suggest that studies of organizational performance and learning cannot be separated from social and cultural considerations.

The emergence of performance initiatives by state legislatures, including South Carolina, spawns initiatives to improve the productivity, accountability, and performance of American higher education (Burke, 2006). These initiatives illustrate the public concern and lack of confidence in the performance of colleges and universities. It is within the context of these socially-expressed needs to improve institutional performance that the findings of this study, in conjunction with evidence from other research studies, have the greatest meaning.

Birnbaum (2000) explains that the standard response of educational institutions when faced with the external challenge and internal need to improve their operations is to implement systems and practices like total quality management, a popular technique in business and industry. He labels these initiatives as academic management fads because of their large scale failures or short life cycle. Cameron and Quinn (2006) conclude that the collective evidence of research studies in which such practices are promoted provide little assurance of enduring performance improvements without a fundamental change in the culture of the organization. They explain that the dependence of performance

improvement on organizational culture is rooted in the fact that when the values of an organization remain constant, even when new strategies and procedures are implemented, the organization returns quickly to the status quo. They conclude that modifying organizational culture is the crucial key to the successful implementation of improvement strategies.

The findings of this study indicate that institutional change and reform through performance and learning are fundamentally related to the development of a complex campus culture. For this institution, the complex culture includes the values of the adhocracy, clan, and hierarchy cultural types. Therefore, based on the findings of this study and its consistency with previous research on cultural complexity and institution performance, it is advisable that this two-year technical/community college adapts and advocates for a culture that permits some degree of innovation and entrepreneurial interpretation as it interfaces with the environment by seeking ways to blend the characteristics of the adhocracy, clan, and hierarchy cultural types into the institutional culture.

The observations of Schein (2004) are relevant in light of these findings. Schein states that leadership and culture are two sides of the same coin, meaning that the only job of importance for leadership is creating and managing the culture. Schein describes mechanisms that have been deployed successfully to change institutional culture, dependent upon the growth stage of the organization. Change mechanisms for early growth organizations include managed evolution, while mechanisms for midlife organizations include planned change and organizational development. Change

mechanisms for mature organizations include reorganization and rebirth. Strategies to achieve cultural change are also found in the works of Schein (1996, 2004), Lewin (1951), Lundberg (1989), and Cameron and Quinn (2006). These sources provide guidance for the leadership of this institution and others for approaches to infuse the more contemporary values of the adhocracy, clan, and hierarchy cultural types into the campus culture.

<u>Implications of the Study</u>

The investigation of the relationship between organizational culture, performance, and learning in this research study has implications for research, for leadership, and for practice. This section discusses these implications within the framework of the findings of the study and its contribution to the field of organizational learning.

Implications for Research

This section provides a brief description of three streams of inquiry that can be pursued as an outgrowth of this study in order to extend the research on the Organizational Learning Systems Model for higher education.

First, conduct a qualitative study to identify the actions in each of the four performance and learning subsystems and the interchange media that are aligned with educational institutions to gain a deeper and richer description of organizational learning for higher education. Understanding the process by which an educational institution

learns may lead to a better understanding of how to manage institutional learning and foster an environment where it can thrive and flourish.

Second, extend this study by including multiple two-year technical/community colleges to study the effects of cultural dominance, strength, congruence and their interactions on the performance and learning subsystems. Previous research is mixed on the effect of cultural strength and congruence on institutional performance outcomes in colleges and universities.

Third, extend this study by including multiple two-year technical/community colleges to study the effects of cultural and leadership complexity and their interaction on the performance and learning subsystems. The Competing Values Framework promotes that all organizations contain the four cultural types and that each contributes to the effectiveness of the organization. One cultural type should not be developed at the exclusion of the others. Limited studies exist that demonstrate the effect of complexity in culture and leadership in colleges and universities on institutional performance and learning.

Implications for Leadership

Initiatives for change through performance and learning must be pervasive and continuous, the kind of change that gradually alters shared expectations, culture, thinking, and ways of doing things (Eckel, Green, & Hill, 2001; Ramaley & Holland, 2005). Three actions are offered for leadership with respect to fostering the conditions for change in higher education by developing a culture of research.

First, the leadership should build a compelling case for the significance of change that drives meaning and value into the effort, with a clear purpose for both the journey and the destination. The role of the leader should be to ask questions that lead to thoughtful, researched, and well documented responses from the faculty, staff, and administrators about the future of the institution. While it is easy to succumb to the traditional assumptions about the impossible challenge of change without significant new resources, external forces like accountability and financial constraints can trigger the need for deeper change beyond compliance or legitimacy.

Second, the leadership should develop a campus environment conducive to change by helping faculty, staff, and administrators socially engage in inquiry and dialogue and become respectful of competing viewpoints. It is important for the leadership to uncover perceptions that can become defensive and to allow for reflection on new information from competing viewpoints in an environment that is free from retribution.

Third, and perhaps most important, the leadership should understand how institutional culture influences the change process. Research has shown that the principle reason for failed changed efforts in higher education has been inattention to the culture of the institution. In the process of change, it is important to respect resistance and learn from the objections expressed in competing and responsible criticism. Teaching people to accept and embrace uncertainties is complex.

Implications for Practice

Four strategies for practice are presented that closely parallel the four learning subsystem functions of the Organizational Learning Systems Model. When these actions occur in the social context, they have the potential to foster a culture of research where accountability and external demands shift their focus from an orientation of performance to an orientation of learning and knowledge-driven decision making.

First, the institution can adopt a philosophy of discovery through practice based on experimentation but balanced with the management of risk that allows for the generation of research questions and testing of hypotheses. This encourages pilot projects with visibility for public learning and appreciation of intellectual values. Innovation is born from risk instead of safety (Tim McMahon, personal conversation, June 5, 2008). Senge (1990) argues that organizations that will excel in the future will be those that discover how to tap into the commitment and capacity of people to learn. An environment that allows experimentation to occur is an underpinning for organizational learning. This is aligned with the environmental interface learning subsystem and the generation of new information.

Second, the institution can promote reflection by elevating the exiting culture of evidence to a culture of research by capitalizing on the functions of information technology and institutional research. A research culture is one that purposely reflects on its actions and practices by quantitatively and qualitatively studying them followed by creating alternatives and implementing actions (Rallis & MacMullen, 2000). It involves shifting from a reactive to a proactive mode in responding to problems. The traditional

institutional research function in the two-year college is focused on neutral data collection methods to be used in satisfying external mandates through reporting (Volkwein, 1999). By shifting the orientation of roles like institutional research from a performance orientation to a catalyst for learning through reflection, the accountability movement has the potential to drive more meaningful change. This is aligned with the action and reflection learning subsystem and the generation of goal-reference knowledge.

Third, the institution can create new social interaction pathways that encourage and support the involvement of faculty, staff, and administrators in defining issues of importance to the institution and collaborating to resolve them. An examination of the structures and procedures related to the flow of information throughout the organization is often a neglected aspect in shifting from a culture of evidence driven by data to a culture of research driven by knowledge-based decision making. Information sharing in higher education has traditionally been centered on the institutional research functions through its analysis and interpretation of data about the organization. Barriers to sharing information within an institution include fear and power. In order to maximize the ability for information to be shared, it is important to identify and remove barriers to the formation of social structures that support learning. This is aligned with the dissemination and diffusion learning subsystem and its output of structuring.

Finally, the institution can understand the organizational context within which information flows and is converted into knowledge. Manville and Foote (1996) argued that people will not willingly share what they know individually if the workplace culture does not support learning, cooperation, and openness. It is important for the institution to

discover its values, beliefs and assumptions about organizational learning, to understand how the members create meaning from new information and knowledge, and to identify structures that facilitate as well as inhibit information sharing. This is aligned with memory and meaning learning subsystem and the generation of sense making.

Limitations of the Study

Although this study holds implications for research, the findings should be viewed within the constraints of several delimitations and limitations. These include the research design, the theoretical models selected, the abilities of the researcher, and unique characteristics of higher education.

A case study was used in this research, focused on the faculty, staff, and administrators of one two-year technical/community college. Although the two-year college mission is similar across institutions, the diversity of their constituencies makes them different. Institutions and people change over time, and a study conducted during a different period in the life of institutions may produce different results. Therefore, because of the institutional diversity among two-year colleges and the focus on one college in this study, the results may not be generalized to other institutions in higher education.

The study was limited by the theoretical model utilized in the study. The intent of this study was to investigate the process of organizational learning without evaluating the outcomes of organizational learning. The purpose was to determine relationships of institutional culture with the choices made by the institution. The two models used in the

study did not focus on the quality of any outcomes generated as a result of learning nor did it address the existence of any performance improvements as a result of learning. These are important aspects of organizational learning that should be addressed in order to understand whether institutional processes aimed at organizational learning can actually improve the ability of a two-year technical/community college to adapt and survive in a competitive environment.

 Although the researcher has taken steps to address the quality and accuracy of the study, it is possible that other researchers could analyze the data, interpret it in different ways, and draw dissimilar conclusions. This was a quantitative study and, unlike qualitative research where the researcher is the instrument for data collection to bring richness to the data, it cannot be dismissed that inconsistencies can occur when different researchers apply their own interpretation to data analysis.

The models used in the study did not address some performance and learning actions and concepts that are unique to higher education. Notable differences between public higher education and the private sector include ambiguous missions and institutional goals.

Closing Perspective

If organizations are to perform, to deal with complex problems and issues, to adapt to changes in the environment, and to survive and prosper, then it must learn. Minimal research has been conducted to provide information on the organizational behavior of two-year colleges. The intent of this study was to contribute to the body of knowledge

concerning the influence of institutional culture on the process of organizational learning in these institutions. If the ability of organizations to adapt and survive through knowledge creation and use provides a lasting competitive advantage in a rapidly changing and turbulent environment is correct, then two-year colleges must find ways to enhance their capacity to learn. This study investigated the organizational culture, performance, and learning perspectives of one institution, and how cultural types can enhance the ability of the institution to learn and apply its knowledge to improved performance. It is hoped that the findings and conclusions from this study will encourage others to conduct additional research on the processes of institutional performance and learning in the two-year college and how it can be applied to improve the success of the institution and its students.

APPENDICES

Survey Instrument

Title: An Investigation of Organizational Performance, Learning, and Culture in a Two-year Technical/Community College

You are invited to participate in a research study conducted by Dr. Frankie Keels Williams, Associate Professor and Coordinator of the Higher Education Doctoral Program in the Eugene T. Moore School of Education, Leadership, Counselor Education, Human and Organizational Development at Clemson University, along with Vicky G. Maloney, doctoral candidate in Educational Leadership with a concentration in Higher Education.

The **purpose** of this research is to examine the relationship between the two change functions of organizational performance and learning and the values, beliefs, and assumptions we know as organizational culture. This study will attempt to determine whether the actions in organizational performance and learning vary systematically from one culture type to another. Organizational performance refers to the four actions of allocation of resources, production/service, coordination and reinforcement. Organizational learning refers to the four actions of environmental interfacing, action and reflection, integration, and memory and meaning. While we are very familiar with organizational performance actions in our continuing pursuit of institutional effectiveness, the knowledge society we live in makes the actions of organizational learning essential for the competitiveness, survival, and growth of the institution. Organizational culture provides the values, beliefs, and assumptions that guide actions of both the individuals and the institution. To that end, culture tends to influence the choices of the organization in selecting change strategies.

Data for the study is collected using a web-based survey that combines two instruments which have been modified for higher education. The *Organizational Action Survey* is a knowledge product of Dr. David Schwandt of The George Washington University's Center for the Study of Learning. It is used to collect information that will help organizational members understand how their own actions and others actions relate to organizational learning and the organization's performance. It is designed to gather participants' perceptions about how their organization operates during normal times as well as during times of stress and change. It answers questions about how organizational goals are achieved, how information flows through the organization, and addresses the effects of the way organizational members retrieve and make sense of what has happened and what is happening in the organization. For more information about the design of the instrument as well as about Dr. Schwandt and his research at the Center for the Study of Learning, you may visit http://www.gwu.edu/csl/. The *Organizational Culture Assessment Instrument* is a product of Drs. Robert E. Quinn and Kim Cameron of the University of Michigan. It provides for diagnosing the culture of an organization across

six dimensions to measure cultural type, strength, and congruence. This instrument has been used extensively in higher education research studies since 1988, including the two-year college.

Your **participation** in this study will involve responding to a series of questions with a focus on the institution level of analysis. Please answer the questions to the best of your ability. The more accurate your responses reflect your perception of performance, learning, and culture, the more meaningful the results will be. Some questions examine different aspects of the same topic and may appear to be repetitious. Please read each question carefully and answer all of them. All questions are single-answer, multiple choice questions with no comments. The amount of time required for your participation is estimated to be approximately 30 minutes.

There are no known personal **risks** to you associated with this research, nor are there any known **benefits** to you personally that would result from your participation. However, your participation in this study will help us understand the relationship of organizational culture types on the institution's actions associated with performance and learning.

We will do everything we can to protect your identity. While some demographic information about the participant is requested, these items are very commonly collected characteristics that have a very low probability of revealing any participant's identification. Moreover, the results of the study will be aggregated at the institutional level in order to protect the **confidentiality** of participants and the institution. Your participation will remain anonymous and confidential since all survey responses and the data will be retained by The George Washington University with the researcher only receiving a data set with no identifiable information.

Your participation in this research study is **voluntary**. You may choose not to participate and you may withdraw your consent to participate at any time. You will not be penalized in any way should you decide not to participate or to withdraw from this study.

 If you have any questions or concerns about this study or if any problems arise, please contact *Dr. Frankie Keels Williams*, Principal Investigator, at Clemson University at 864.656.1491 or by e-mail at fkw@clemson.edu. If you have any questions or concerns about your rights as a research participant, please contact the *Clemson University Office of Research Compliance* at 864.656.6460.

By clicking on the "I Agree" icon below, you affirm that that you have read this informational letter and you agree to participate in the study. You will be taken to the survey following your acceptance.

Thank you for your willingness to participate in this most important research. The results will be shared with you at the conclusion of the study.

I AGREE

Organizational Culture, Performance, and Learning Survey

Please respond to the statements below based on your perception of the current environment at the College. There is no right or wrong answer. We are only interested in your perception.

	Please read the following statements and indicate to what *EXTENT* each of the items currently applies to your institution. Using a *5-point scale*, 1 indicates a very little extent and 5 indicates a very great extent.	*1 = To a very little extent*	*2 = To a little extent*	*3 = To some*	*4 = To a great extent*	*5 = To a very great extent*
1	Frequent technological changes or advances make current programs, services, and operations at your institution obsolete.	1	2	3	4	5
2	Your institution is committed to developing its faculty, staff, and administrators.	1	2	3	4	5
3	Faculty, staff, and administrators at your institution share external information. (e.g., performance and accountability reports, accreditation reports, financial audit reports, environmental scanning reports, etc.).	1	2	3	4	5
4	There is intense competition among colleges and universities in South Carolina.	1	2	3	4	5
5	Faculty, staff, and administrators at your institution are held responsible for the decisions they make.	1	2	3	4	5
6	Your institution predicts changes occurring in higher education.	1	2	3	4	5
7	Your institution uses its stories, traditions, and legends or makes references to its history to let faculty, staff, and administrators know how they should perform their jobs.	1	2	3	4	5
8	Your institution effectively allocates and distributes organizational resources (e.g., people, technology, equipment, supplies, money).	1	2	3	4	5
9	Your institution continuously tracks how other colleges and universities improve their programs, services, and operations.	1	2	3	4	5
10	Your institution holds work groups and teams accountable for achieving established goals.	1	2	3	4	5
11	Your institution implements changes to enable faculty, staff, and administrators to be more effective in doing their jobs.	1	2	3	4	5
12	Your institution deliberately and intentionally reflects upon and evaluates external information (e.g., performance and accountability reports, accreditation reports, financial audit reports, environmental scanning reports, etc.)	1	2	3	4	5
13	Students, employers, and graduates play a significant role in providing information about the quality of programs and	1	2	3	4	5

		1	2	3	4	5
	services in your institution.					
14	Your institution publicly acknowledges faculty, staff, and administrators for outstanding performance and service (e.g., featuring them in newsletters and media, plaques, gifts, etc.).	1	2	3	4	5
15	Your institution is committed to being as efficient as possible.	1	2	3	4	5
16	Your institution provides opportunities for faculty, staff, and administrators to develop their knowledge, skills, and capabilities.	1	2	3	4	5
17	Your institution influences or controls important factors and forces in its external environment (e.g., accrediting associations, professional associations, local, state, and federal governmental agencies, legislative delegation, technological innovations, etc.).	1	2	3	4	5
18	Your institution believes it needs to continuously improve customer service.	1	2	3	4	5
19	Your institution effectively uses its resources.	1	2	3	4	5
20	External forces (e.g., local, state, and federal governmental agencies, accrediting associations, professional associations, etc.) frequently develop requirements, regulations, and policies that directly affect your institution.	1	2	3	4	5
21	Your institutional leaders support quick and accurate communication among all faculty, staff, and administrators.	1	2	3	4	5
22	Your institution has established goals for researching and developing new programs and services.	1	2	3	4	5
23	Faculty, staff, and administrators effectively use the institution's organizational structure (e.g., personal networks, chain of command, teams, etc.) when sharing ideas and innovations.	1	2	3	4	5
24	Your institutional leaders are effective at achieving the goals of the college.	1	2	3	4	5
25	Your institution uses ideas and suggestions from faculty, staff, and administrators.	1	2	3	4	5
	The following list contains 8 paired sets of institutional actions. Considering each numbered pair by itself, please indicate which one of the two choices _BEST_ describes the present actions of your institution.					
26	Which of the following paired items best represents the actions of your institution? _**Choose 1 or 2.**_	1	2			
	1. _Utilization of external information (e.g., student feedback, governmental regulations, accreditation reports, accountability reports, financial audit reports, etc.) to guide institutional change._					
	2. _Utilization of institutional resources to guide change._					
27	Which of the following paired items best represents the actions of your institution? _**Choose 1 or 2.**_	1	2			

	1. *Provision of valued programs and services.*					
	2. *Creation of new knowledge relevant to the institution.*					
28	Which of the following paired items best represents the actions of your institution? ***Choose 1 or 2.***	*1*	*2*			
	1. *Evaluating internal and external information and data to make informed decisions regarding institutional strategy.*					
	2. *Accomplishments of established institutional goals.*					
29	Which of the following paired items best represents the actions of your institution? ***Choose 1 or 2.***	*1*	*2*			
	1. *Meeting present institutional performance standards.*					
	2. *Critically reviewing present institutional performance standards.*					
30	Which of the following paired items best represents the actions of your institution? ***Choose 1 or 2.***	*1*	*2*			
	1. *Using the most effective communication network to successfully deal with the situation at hand.*					
	2. *Following the established chain of command to successfully manage the situation at hand.*					
31	Which of the following paired items best represents the actions of your institution? ***Choose 1 or 2.***	*1*	*2*			
	1. *Innovation of new programs and services.*					
	2. *Provision of well established programs and services.*					
32	Which of the following paired items best represents the actions of your institution? ***Choose 1 or 2.***	*1*	*2*			
	1. *Ensuring that faculty, staff, and administrators have the capabilities to effectively perform the work of the future.*					
	2. *Fair and equitable allocation of institutional resources to meet future demands.*					
33	Which of the following paired items best represents the actions of your institution? ***Choose 1 or 2.***	*1*	*2*			
	1. *Using external data (e.g., student feedback, employer feedback, performance reports, accountability reports, accreditation reports, local, state, and federal government regulations, political information, etc.) to better understand the needs of students and other stakeholders.*					
	2. *Using internal data and procedures to meet the needs of students and other stakeholders.*					

	Please indicate how much you agree or disagree with each of the statements below as it currently applies to your institution, *based on your experience.* Using a *5-point scale*, 1 indicates Strongly Disagree and 5 indicates Strongly Agree.	*1 = Strongly Disagree*	*2 = Disagree*	*3 = Neutral*	*4 = Agree*	*5 = Strongly Agree*
34	Your institution believes that continuous change is necessary.	*1*	*2*	*3*	*4*	*5*
35	There are established ways to share new operational processes and procedures throughout the institution.	*1*	*2*	*3*	*4*	*5*
36	Your institution has clear performance goals.	*1*	*2*	*3*	*4*	*5*
37	Your institution effectively identifies and acquires resources required to meet its goals.	*1*	*2*	*3*	*4*	*5*
38	Your institution has a strong culture of shared values that guide the daily work activities.	*1*	*2*	*3*	*4*	*5*
39	Due dates for deliverables are consistently met in your institution.	*1*	*2*	*3*	*4*	*5*
40	Faculty, staff, and administrators in your institution believe that evaluating what students and other stakeholders say is critical to achieving institutional goals.	*1*	*2*	*3*	*4*	*5*
41	Mistakes are seen as learning opportunities in your institution.	*1*	*2*	*3*	*4*	*5*
42	Your institution has established work groups, teams, networks, and other collaborative arrangements to help the institution adapt and change.	*1*	*2*	*3*	*4*	*5*
43	The leaders and managers of your institution have the skills needed to guide institutional change.	*1*	*2*	*3*	*4*	*5*
44	Your institution has established an achievable mission.	*1*	*2*	*3*	*4*	*5*
45	The programs and services created by groups and teams in your institution are of much higher quality than any one individual in your institution could have created alone.	*1*	*2*	*3*	*4*	*5*
46	Faculty, staff, and administrators in your institution learn from one another through informal conversations.	*1*	*2*	*3*	*4*	*5*
47	It is easy for faculty, staff, and administrators to access expertise in your institution.	*1*	*2*	*3*	*4*	*5*
48	Your institution has a strong culture of shared values that support individual and institutional development.	*1*	*2*	*3*	*4*	*5*
49	The work group or unit to which you belong has been able to influence the way changes are introduced in your institution.	*1*	*2*	*3*	*4*	*5*
50	Your institution has clear goals for individual and institutional development.	*1*	*2*	*3*	*4*	*5*

		1	2			
	The following list contains 12 paired sets of possible reactions to change in an institution's external environment (e.g., technological innovations, local, state, and federal governmental regulations, accreditation and accountability changes, higher education changes, etc.). **Please indicate which one of the two choices in each of the 12 paired sets best describes your institution in cases of change. _Choose 1 or 2 from each of the 12 sets._**					
	In case of change, your institution…					
51	1. *Makes new insights and ideas available to everyone in the institution who wants access to them, OR*	1				
	2. *Protects new insights and ideas by sharing them only with certain management levels and functions.*		2			
52	1. *Is uncertain how to deal with changes in the institution's external environment, OR*	1				
	2. *Is confident in its ability to understand the impact of environmental changes on the institution.*		2			
53	1. *Has established processes and procedures to control how changes in its environment impact its operations, OR*	1				
	2. *Allows changes in its external environment to influence how processes and procedures are performed.*		2			
54	1. *Usually performs detailed analyses to make informed decisions, OR*	1				
	2. *Usually follows the intuition of the leadership.*		2			
55	1. *Considers the past, present, and future impacts of change, OR*	1				
	2. *Focuses on the present relevance of change.*		2			
56	1. *Tries to adapt to changes in its external environment right away, OR*	1				
	2. *Takes time to clarify and understand changes occurring in the external environment.*		2			
57	1. *Is skeptical about new trends and changes in the institution, OR*	1				
	2. *Is optimistic about new trends and changes in the institution.*		2			
58	1. *Tries to control who has access to external information sources or gets new information, OR*	1				
	2. *Tries to provide broad access to external information sources and provide new information to everyone in the institution.*		2			
59	1. *Immediately applies new technology to institutional work processes and procedures, OR*	1				
	2. *Creates a pilot project to test the new technology's*		2			

		relevance to institutional work processes and procedures.				
60	1.	*Creates policies to interpret how faculty, staff, and administrators should deal with new situations, OR*	*1*			
	2.	*Allows faculty, staff, and administrators to interpret and make sense of new situations.*		*2*		
61	1.	*Considers leaders and managers solely responsible for decision making about how to deal with organizational change, OR*	*1*			
	2.	*Expects everyone to participate in the decision making process on how to deal with organizational change.*		*2*		
62	1.	*Strives to obtain additional information so that they can accurately predict the outcomes of their actions with respect to the change, OR*	*1*			
	2.	*Gathers just enough information to produce a plausible outcome as a result of their actions with respect to the change.*		*2*		

	The following statements describe how institutions operate and the values that characterize them. Please indicate the extent to which each statement describes your institution:	*1 = To a very little extent*	*2 = To a little extent*	*3 = To some extent*	*4 = To a great extent*	*5 = To a very great extent*
63	The institution is a very personal place. It is like an extended family. People seem to share a lot of themselves.	*1*	*2*	*3*	*4*	*5*
64	The institution is a very dynamic and entrepreneurial place. People are willing to stick their necks out and take risks.	*1*	*2*	*3*	*4*	*5*
65	The institution is very results-oriented. A major concern is getting the job done. People are very competitive and achievement-oriented.	*1*	*2*	*3*	*4*	*5*
66	The institution is a very controlled and structured place. Formal procedures generally govern what people do.	*1*	*2*	*3*	*4*	*5*
67	The leadership in the institution is generally considered to exemplify mentoring, facilitating, or nurturing.	*1*	*2*	*3*	*4*	*5*
68	The leadership in the institution is generally considered to exemplify entrepreneurship, innovation, or risk-taking.	*1*	*2*	*3*	*4*	*5*
69	The leadership in the institution is generally considered to exemplify a no-nonsense, aggressive, results-oriented focus.	*1*	*2*	*3*	*4*	*5*
70	The leadership in the institution is generally considered to exemplify coordinating, organizing, or smooth-running efficiency.	*1*	*2*	*3*	*4*	*5*
71	The management style in the institution is characterized by	*1*	*2*	*3*	*4*	*5*

		1	2	3	4	5
	teamwork, consensus, and participation.					
72	The management style in the institution is characterized by individual risk-raking, innovation, freedom, and uniqueness.	1	2	3	4	5
73	The management style in the institution is characterized by hard-driving competitiveness, high demands, and achievement.	1	2	3	4	5
74	The management style in the organization is characterized by security of employment, conformity, predictability, and stability in relationships.	1	2	3	4	5
75	The glue that holds the institution together is loyalty and mutual trust. Commitment to this institution runs high.	1	2	3	4	5
76	The glue that holds the institution together is commitment to innovation and development. There is an emphasis on being on the cutting edge.	1	2	3	4	5
77	The glue that holds the organization together is the emphasis on achievement and goal accomplishment. Aggressiveness and winning are common themes.	1	2	3	4	5
78	The glue that holds the institution together is formal rules and policies. Maintaining a smooth-running institution is important.	1	2	3	4	5
79	The institution emphasizes human development. High trust, openness, and participation persist.	1	2	3	4	5
80	The institution emphasizes acquiring new resources and creating new challenges. Trying new things and prospecting for opportunities are valued.	1	2	3	4	5
81	The institution emphasizes competitive actions and achievement. Hitting targets and winning over the competition are dominant.	1	2	3	4	5
82	The institution emphasizes permanence and stability. Efficiency, control, and smooth operations are important.	1	2	3	4	5
83	The institution defines success on the basis of the development of human resources, teamwork, employee commitment, and concern for people.	1	2	3	4	5
84	The institution defines success on the basis of having the most unique or newest programs and services. It is a leader and innovator in providing new programs and services.	1	2	3	4	5
85	The institution defines success on the basis of winning in the academic marketplace and outpacing the competition. Competitive leadership is the key to success.	1	2	3	4	5
86	The institution defines success on the basis of efficiency. Dependable delivery, smooth scheduling, and low-cost operation are crucial.	1	2	3	4	5
	Below are some questions that assist in understanding your role in the institution. The information is not collected to match individuals with their responses but rather to gain a better understanding of how different groups feel and perceive issues covered in the survey.					

87	*Which one of the following best describes your position at the institution:*					
	1. Administrator (Executive Leadership, Deans, Academic and Administrative Directors, Administrative Supervisors)	1				
	2. Faculty (including Academic Program Managers and Department Chairs)	2				
	3. Staff	3				
88	*What is your employment status?*					
	1. Full-time	1				
	2. Part-time/Contract	2				
89	*How long have you worked in higher education?*					
	1. Less than 1 year	1				
	2. 1 year to less than 3 years	2				
	3. 3 years to less than 5 years	3				
	4. 5 years to less than 10 years	4				
	5. 10 years to less than 15 years	5				
	6. 15 years or more	6				
90	*How long have you worked at this institution?*					
	1. Less than 1 year	1				
	2. 1 year to less than 3 years	2				
	3. 3 years to less than 5 years	3				
	4. 5 years to less than 10 years	4				
	5. 10 years to less than 15 years	5				
	6. 15 years or more	6				
91	*How long have you worked in this position?*					
	1. Less than 1 year	1				
	2. 1 year to less than 3 years	2				
	3. 3 years to less than 5 years	3				
	4. 5 years to less than 10 years	4				
	5. 10 years to less than 15 years	5				
	6. 15 years or more	6				
92	*How many years have you worked in the private sector before working in higher education?*					
	1. Less than 1 year	1				
	2. 1 year to less than 3 years	2				
	3. 3 years to less than 5 years	3				
	4. 5 years to less than 10 years	4				
	5. 10 years to less than 15 years	5				
	6. 15 years or more	6				
	7. Have not worked in the private sector	7				
93	*What is your age?*					
	1. Under 21 years	1				
	2. 21 to 30 years	2				
	3. 31 to 40 years	3				

	4. 41 to 50 years	4					
	5. 51 to 60 years	5					
	6. 61 years or more	6					
94	*What is your gender?*						
	1. Female	1					
	2. Male	2					
95	*What is your ethnicity?*						
	1. Black/African-American	1					
	2. American Indian or Alaskan Native	2					
	3. Asian or Pacific Islander	3					
	4. Hispanic	4					
	5. White Non-Hispanic	5					
	6. Unknown	6					
96	*What is the highest level of education you have completed?*						
	1. Less than High School/Some High School	1					
	2. High School Degree or Equivalent	2					
	3. Some College	3					
	4. 2-year College Degree	4					
	5. 4-year College Degree	5					
	6. Masters Degree	6					
	7. Doctoral Degree	7					
	8. Other	8					
	Thank you very much for participating in this survey.						

Click here to ***SUBMIT*** your responses.

Appendix B

Informational Letter/Informed Consent

Information Concerning Participation in a Research Study
Clemson University

Title: An Investigation of Organizational Performance, Learning, and Culture in a Two-year Technical/Community College

You are invited to participate in a research study conducted by Dr. Frankie Keels Williams, Associate Professor and Coordinator of the Higher Education Doctoral Program in the Eugene T. Moore School of Education, Leadership, Counselor Education, Human and Organizational Development at Clemson University, along with Vicky G. Maloney, doctoral candidate in Educational Leadership with a concentration in Higher Education.

The **purpose** of this research is to examine the relationship between the two change functions of organizational performance and learning and the values, beliefs, and assumptions we know as organizational culture. This study will attempt to determine whether the actions in organizational performance and learning vary systematically from one culture type to another. Organizational performance refers to the four actions of allocation of resources, production/service, coordination and reinforcement. Organizational learning refers to the four actions of environmental interfacing, action and reflection, integration, and memory and meaning. While we are very familiar with organizational performance actions in our continuing pursuit of institutional effectiveness, the knowledge society we live in makes the actions of organizational learning essential for the competitiveness, survival, and growth of the institution. Organizational culture provides the values, beliefs, and assumptions that guide actions of both the individuals and the institution. To that end, culture tends to influence the choices of the organization in selecting change strategies.

Data for the study is collected using a web-based survey that combines two instruments which have been modified for higher education. The *Organizational Action Survey* is a knowledge product of Dr. David Schwandt of The George Washington University's Center for the Study of Learning. It is used to collect information that will help organizational members understand how their own actions and others actions relate to organizational learning and the organization's performance. It is designed to gather participants' perceptions about how their organization operates during normal times as well as during times of stress and change. It answers questions about how organizational goals are achieved, how information flows through the organization, and addresses the effects of the way organizational members retrieve and make sense of what has happened and what is happening in the organization. For more information about the design of the instrument as well as about Dr. Schwandt and his research at the Center for the Study of

Learning, you may visit http://www.gwu.edu/csl/. The *Organizational Culture Assessment Instrument* is a product of Drs. Robert E. Quinn and Kim Cameron of the University of Michigan. It provides for diagnosing the culture of an organization across six dimensions to measure cultural type, strength, and congruence. This instrument has been used extensively in higher education research studies since 1988, including the two-year college.

Your **participation** in this study will involve responding to a series of questions with a focus on the institution level of analysis. Please answer the questions to the best of your ability. The more accurate your responses reflect your perception of performance, learning, and culture, the more meaningful the results will be. Some questions examine different aspects of the same topic and may appear to be repetitious. Please read each question carefully and answer all of them. All questions are single-answer, multiple choice questions with no comments. The amount of time required for your participation is estimated to be approximately 30 minutes.

There are no known personal **risks** to you associated with this research, nor are there any known **benefits** to you personally that would result from your participation. However, your participation in this study will help us understand the relationship of organizational culture types on the institution's actions associated with performance and learning.

We will do everything we can to protect your identity. While some demographic information about the participant is requested, these items are very commonly collected characteristics that have a very low probability of revealing any participant's identification. Moreover, the results of the study will be aggregated at the institutional level in order to protect the **confidentiality** of participants and the institution. Your participation will remain anonymous and confidential since all survey responses and the data will be retained by The George Washington University with the researcher only receiving a data set with no identifiable information.

Your participation in this research study is **voluntary**. You may choose not to participate and you may withdraw your consent to participate at any time. You will not be penalized in any way should you decide not to participate or to withdraw from this study.

 If you have any questions or concerns about this study or if any problems arise, please contact *Dr. Frankie Keels Williams*, Principal Investigator, at Clemson University at 864.656.1491 or by e-mail at fkw@clemson.edu. If you have any questions or concerns about your rights as a research participant, please contact the *Clemson University Office of Research Compliance* at 864.656.6460.

Thank you for your willingness to participate in this most important research. The results will be shared with you at the conclusion of the study.

Letter Requesting Support for the Research Study

Vicky G. Maloney
1018 Alice Drive
Sumter SC 29150
October 8, 2007

Dr. Tim Hardee
President
Central Carolina Technical College
506 N Guignard Drive
Sumter SC 29150

Dear Dr. Hardee:

As a doctoral student at Clemson University, I am seeking to conduct a research study as a partial requirement of my Doctor of Philosophy degree. As we discussed previously, I am interested in providing a survey to assess the perceptions of College employees regarding their orientation to organizational culture types and the actions associated with organizational performance and learning in a two-year technical/community college. This study will provide beneficial information that can assist you and the College in successful and sustainable change strategies through both performance and learning actions.

The research will provide no risk of civil or criminal liability nor will it be damaging to the financial standing, employability, or reputation of the participants. The risk involved is no more than would be encountered in the everyday life of the institution. Because the participants cannot be identified by their responses and the fact that the results will be reported in aggregate form, their confidentially is safeguarded. Moreover, the institution will not be identified in the study.

I look forward to receiving your consent for utilizing the survey at Central Carolina Technical College. Your approval will be very much appreciated. If you have additional questions, I can be reached at 803.236.8597 or by email at vmaloney@ftc-i.net. Alternatively, you may contact the Chairperson of my dissertation committee Dr. Frankie Keels Williams, Associate Professor and Coordinator of the Higher Education Doctoral Program, at 864.656.1491 or by email at fkw@clemson.edu.

Best Regards,

Vicky G. Maloney
Doctoral Candidate
Eugene T. Moore School of Education Leadership, Counselor Education, Human and Organizational Development
Clemson University

Appendix D

Letter Providing Support for the Research Study

Dr. Tim Hardee
President
Central Carolina Technical College
506 N Guignard Drive
Sumter SC 29150
December 3, 2007

Vicky G. Maloney
1018 Alice Drive
Sumter SC 29150

Dear Vicky:

It is with pleasure that I provide support for a research study in partial requirement of a Doctor of
Philosophy degree at Clemson University. You will have access to the administration, faculty, and staff of
the College in order to respond to a web-based survey to assess their orientation to organizational culture
types and the actions associated with organizational performance and learning in a two-year
technical/community college. I understand that the risk to the participants and the College is no more than
would be encountered in a normal day and that the confidentiality of the participants and the institution will
be safeguarded.

I look forward to providing the support you require for the research study and appreciate your interest and
willingness in conducting your research at this College.

Best Regards,

Dr. Tim Hardee
President

Appendix E

Announcement of the Research Study by E-mail

Date: March 6, 2008
To: College Participants in Research Study (SURVEY)
From: Dr. Tim Hardee, President
Subject: Announcement of Research Study and Institutional Support

We are fortunate to have Vicky Maloney, a doctoral candidate in Educational Leadership with a concentration in Higher Education at Clemson University, select our institution for her dissertation research on the relationship of organizational culture types to performance and learning actions as mechanisms for change. The summary points of the research are provided below:

- Purpose of the Research:
  - *To investigate organizational culture, performance and learning in a two-year technical/community college and examine variations in performance and learning actions among culture types at the institutional level of analysis.*

- Benefits to the College and its Leadership:
  - *Provide insight and feedback to the College about its present orientations to performance and learning actions as change initiatives, identifying strengths, areas for improvement, and practices that facilitate or inhibit performance and learning at the institution; and*
  - *Provide administrators, faculty, and staff with a better understanding of how their actions and behaviors affect the creation, sharing, use, and storage of knowledge.*

- Time Requirement:
  - *Approximately 30 minutes to complete the anonymous and confidential online survey.*

I support the research purpose and, with the Executive Leadership Team, strongly encourage you to participate in this study for our College. This research will provide valuable information to us regarding sustainable change initiatives and leadership practices, particularly important with our institutional emphasis on service quality, while assisting Vicky in completing her academic requirements.

Please let me know if you have any questions. Otherwise, look forward to receiving an e-mail from Vicky with information about the study and instructions for participating in the survey.

Appendix F

Invitation to Participate in the Research Study

Date: March 9, 2008
To: College Participants in Research Study (SURVEY)
From: Vicky G. Maloney
Subject: Invitation to Participate in a College Research Study
(ATTACHMENT: Informational Letter)

As Dr. Hardee has communicated, I am doctoral candidate at Clemson University, conducting research at our College investigating the relationship between organizational culture types and organizational performance and learning actions. Your input to the study will provide information that will be beneficial to the College and its leadership in fostering an environment that enables change to occur and be sustainable while developing the capacity for knowledge creation, storage, and use in the institution. Your participation is voluntary. However, the better the participation rate, the more meaningful the results will be. Information about the study, including your rights and responsibilities as a participant, is included in the attached Informational Letter, and is also provided in the introduction to the survey.

The web-based survey used in this research is being administered by The George Washington University Center for the Study of Learning on ***March 10 - 23, 2008.*** While you may complete the survey using ***any*** computer with access to the Internet, I will be located at the following participation centers to offer refreshments, assistance, and answers to any questions about the study:

>   March 10 - 19, 2008:
>   Room M104 on Main Campus   9:00AM – 3:00PM
>   March 20, 2008:
>   Lee County   8:30AM – 10:00AM
>   Kershaw County Center   11:00AM – 12:30PM
>   F E Dubose   2:00PM –   3:30PM

To express my appreciation for your contribution to this research, participants completing the survey will receive a commemorative gift ***and*** cash reward ranging from $1 - $20. Consistent with the purpose of this research, a donation of $425 will be made to the College's Professional Development Program to cover the registration fee for an employee to attend the 2009 Learning College Summit sponsored by the League for Innovation in the Community College. Finally, all participants will be eligible for drawings on April 7, 2008 for:

   ✓ $25 gift certificate for gas
   ✓ $25 gift certificate to Wal-Mart

- ✓ $25 gift certificate to Lilfred's restaurant in Rembert
- ✓ $30 gift certificate to Mr. Friendly's/Solstice in Columbia
- ✓ Weekend in Charleston at the Meeting Street Inn

While these are also incentives to participate, the more important result of your participation will be the knowledge gained about our College while providing information to supplement our service quality initiative.

Thank you in advance for your time, support, and willingness to participate in the study. The instructions for completing the survey follow.

INSTRUCTIONS

Your responses to the survey items should indicate what happens at the College from ***your*** perspective, and not what you believe would happen or how you think things should be. There is no right or wrong answer to any question; *the interest is in your perception of the current environment.* Because this is an anonymous survey which cannot track your progress, you will need to start and complete the survey in one session. It takes approximately 30 minutes to respond to the survey items.

There are six sections in the survey presenting statements to you in two formats: a 5-point Likert scale and forced choice responses. There is no provision for comments. The majority of the questions are statements to which you will rate your perception on a scale of 1 to 5, with 1 = lowest response and 5 = highest response. The remainder of the questions is similar to multiple choice questions from which you will select one response for each question. The overview for accessing and completing the survey follows.

1. Upon entering the survey using the link below, you will be presented with an Informational Letter/Informed Consent section describing the study and your rights and responsibilities as a participant in the survey. This is the same information provided in the attachment.
2. At the end of the Informational Letter/Informed Consent section, you will be asked if you agree to participate in the study. You will see an area for entering a password and an icon that states "*I Agree*" which will serve as your electronic consent when activated.
3. Click in the area to the left of the "*I Agree*" icon and enter the password **cpl**
4. Click on the "*I Agree*" icon to indicate your acceptance.
5. You will be taken to the survey which contains a total of 96 items, including common demographics. Respond to all of the questions as it relates to ***your*** perception of the College following the instructions for each section.

6. When you are satisfied with your responses, click on the "***Submit Survey***" icon at the end on of the questionnaire. Your responses will <u>not</u> be saved if you do not click the "***Submit Survey***" icon!

7. *__If you are presented with an error page__: If you provided more than one response to a question, an error message will appear identifying the question(s) to be corrected. If this happens to you, simply click on the **Back** button of the Browser to return to the survey, correct your error, scroll to the bottom on the survey, and click the "**Submit Survey**" icon again. Repeat this step until there are no errors.*

8. When there are no errors, you will be presented with a confirmation page indicating that your survey responses were **successfully submitted**. Follow the instructions on the confirmation page for claiming your appreciation gifts and submitting your name as an entry into a subsequent drawing for other gifts.

You may begin the survey at http://chaos.va.gwu.edu/cpl/password.htm

Appendix G

Follow-Up Communication from the President

Date: March 14, 2008
To: College Participants in Research Study (SURVEY)
From: Dr. Tim Hardee, President
Subject: Encouragement to Participate in a College Research Study

By this time, you have received several correspondences and announcements from Vicky Maloney regarding the research she is conducting on organizational culture, performance and learning for our College. I, along with the Executive Leadership Team, believe this research study is valuable and will provide insightful information to us regarding our cultural orientations toward change strategies with respect to the manner in which we achieve our goals and objectives and adapt to our environment. For those who have completed the survey, please accept my appreciation for your time and effort. For those who have not yet had the opportunity to complete the survey, the survey will remain open through March 23, and I encourage you to be a participant in order to achieve the best results possible. The survey can be accessed at http://chaos.va.gwu.edu/edl/password.htm. Vicky will be available for assistance or to answer any of your questions per the following schedule:

March 17-19:
  Room M104 on Main Campus   *9:00AM –   3:00PM*

March 20, 2008:
  Lee County Center   *8:30AM – 10:00AM*
  Kershaw County Center   *11:00AM – 12:30PM*
  F. E. Dubose   *2:00PM –   3:30PM*

She will also be providing participants with refreshments and appreciation gifts at that time.
Thank you again for your willingness to participate in this research. I appreciate your help in proving useful information to Vicky's research and more importantly to Central Carolina Technical College.

Dr. Tim Hardee
President

Appendix H

Follow-Up Communication to Participate

Date: March 17, 2008
To: College Participants in Research Study (SURVEY)
From: Vicky G. Maloney
Subject: Invitation to Participate in a College Research Study

Many thanks to those of you who have completed the Organizational Culture,
Performance, and Learning Survey. I want to encourage those of you who have not
completed the survey to please take 30 minutes to do so, and join me in (location to be
inserted depending on the date) for refreshments and a relaxing environment while you
participate in the survey. An appreciation gift will also be provided as an expression of
my gratitude for your participation in this important study. While the participation has
been great, your input is valuable and needed in order to provide an accurate profile of
the College's culture types and its present status of organizational performance and
learning actions for change.
When the research is completed, I will present the findings. I want to assure you that the
survey is completely anonymous and confidential. No individual responses will be
reported. Instead, the information will be aggregated and analyzed at the institutional
level of analysis.

Thank you again for your time, support, and willingness to participate. You can access
the survey at http://chaos.va.gwu.edu/cpl/password.htm using the password cpl.

Appendix I

Letter of Appreciation

Date: March 30, 2008
To: College Participants in Research Study (SURVEY)
From: Vicky G. Maloney
Subject: Expression of Appreciation

Dear College Administrators, Faculty, and Staff:

I would like to take this opportunity to sincerely express my appreciation for your participation in the data collection phase of my research study *Investigating the Organizational Culture, Performance, and Learning in a Two-year Technical/Community College*. You have helped me immensely toward achieving my research objective by submitting your survey responses. At the close of the survey administration period, nearly two-thirds of the approximately 300 invited participants had responded. Moreover, I also appreciated the positive comments you provided on the depth and breadth of the items in the survey. I am confident the data analysis, interpretation, findings, and conclusion from this study, to be made available at the completion of the study this fall, will benefit our College, as well as other institutions, as we move into a new era.

I would especially like to thank the Executive Leadership Team for allowing this study to be conducted for Central Carolina Technical College and for providing the on-going support and feedback that enabled this phase of the research study to be successful. Without their leadership and personal encouragement, this research project would have been much more of a challenge. My gratitude is also extended to Elizabeth Bastedo, Nancy Bishop, Julie Cramer, Neal Crotts, and Barbara Wells for their involvement in the review and feedback of the survey instrument for our two-year college environment.

It has been a pleasure, as always, to work with you, to meet some colleagues I have only known by name, and to re-establish some relationships. In the process, I have reconnected with this institution. So thank you for your support and participation, and for reminding me of why I chose to be a member of this organization over 25 years ago.

Thank you again.

With Best Regards,

Vicky G. Maloney
Doctoral Candidate, Educational Leadership with Concentration in Higher Education, Ph.D.
Eugene T. Moore School of Education Leadership, Counselor Education, Human and Organizational Development
Clemson University

SPSS Multiple Regression Output for Total Institutional Performance

```
REGRESSION
  /DESCRIPTIVES MEAN STDDEV CORR SIG N
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS CI BCOV R ANOVA COLLIN TOL CHANGE ZPP
  /CRITERIA=PIN(.05) POUT(.10)
  /NOORIGIN
  /DEPENDENT TP
  /METHOD=ENTER Clan Adhocracy Hierarchical
  /SCATTERPLOT=(*ZPRED ,*ZRESID ) (*SRESID ,*SDRESID )
  /RESIDUALS DURBIN HIST(ZRESID) NORM(ZRESID) .
```

Regression

[DataSet1] C:\Documents and Settings\maloneyvg\Desktop\Vickys\vmfdata\VMFOFFIC\VMFWORD
\CUDissertation\Data Collection\cpl092108 dissertation data.sav

Descriptive Statistics

	Mean	Std. Deviation	N
TP	13.9012	2.66617	187
Clan	2.9007	.96339	187
Adhocracy	2.6887	.84359	187
Hierarchical	3.3898	.59551	187

Correlations

		TP	Clan	Adhocracy	Hierarchical
Pearson Correlation	TP	1.000	.726	.754	.457
	Clan	.726	1.000	.823	.416
	Adhocracy	.754	.823	1.000	.350
	Hierarchical	.457	.416	.350	1.000
Sig. (1-tailed)	TP	.	.000	.000	.000
	Clan	.000	.	.000	.000
	Adhocracy	.000	.000	.	.000
	Hierarchical	.000	.000	.000	.
N	TP	187	187	187	187
	Clan	187	187	187	187
	Adhocracy	187	187	187	187
	Hierarchical	187	187	187	187

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	Hierarchical, Adhocracy, Clan[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: TP

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.794^a	.630	.624	1.63436

Model Summary^b

Model	Change Statistics					Durbin-Watson
	R Square Change	F Change	df1	df2	Sig. F Change	
1	.630	103.995	3	183	.000	2.228

a. Predictors: (Constant), Hierarchical, Adhocracy, Clan

b. Dependent Variable: TP

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	833.360	3	277.787	103.995	.000^a
	Residual	488.819	183	2.671		
	Total	1322.179	186			

a. Predictors: (Constant), Hierarchical, Adhocracy, Clan

b. Dependent Variable: TP

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	5.005	.712		7.032	.000
	Clan	.703	.226	.254	3.114	.002
	Adhocracy	1.520	.250	.481	6.070	.000
	Hierarchical	.817	.221	.183	3.693	.000

267

Coefficients^a

Model		95% Confidence Interval for B	
		Lower Bound	Upper Bound
1	(Constant)	3.601	6.410
	Clan	.258	1.149
	Adhocracy	1.026	2.014
	Hierarchical	.381	1.254

Coefficients^a

Model		Correlations			Collinearity Statistics	
		Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)					
	Clan	.726	.224	.140	.303	3.295
	Adhocracy	.754	.409	.273	.322	3.105
	Hierarchical	.457	.263	.166	.827	1.210

a. Dependent Variable: TP

Coefficient Correlations^a

Model			Hierarchical	Adhocracy	Clan
1	Correlations	Hierarchical	1.000	-.014	-.241
		Adhocracy	-.014	1.000	-.796
		Clan	-.241	-.796	1.000
	Covariances	Hierarchical	.049	-.001	-.012
		Adhocracy	-.001	.063	-.045
		Clan	-.012	-.045	.051

a. Dependent Variable: TP

Collinearity Diagnostics^a

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions			
				(Constant)	Clan	Adhocracy	Hierarchical
1	1	3.894	1.000	.00	.00	.00	.00
	2	.075	7.213	.11	.11	.09	.07
	3	.018	14.690	.19	.52	.63	.24
	4	.013	17.112	.70	.37	.28	.70

a. Dependent Variable: TP

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	8.0454	19.4268	13.9012	2.11670	187
Std. Predicted Value	-2.767	2.610	.000	1.000	187
Standard Error of Predicted Value	.123	.526	.227	.076	187
Adjusted Predicted Value	8.4417	19.4664	13.9058	2.11026	187
Residual	-5.01192	3.40111	.00000	1.62113	187
Std. Residual	-3.067	2.081	.000	.992	187
Stud. Residual	-3.150	2.091	-.001	1.006	187
Deleted Residual	-5.28761	3.43857	-.00458	1.66687	187
Stud. Deleted Residual	-3.230	2.111	-.002	1.011	187
Mahal. Distance	.058	18.297	2.984	2.892	187
Cook's Distance	.000	.156	.007	.018	187
Centered Leverage Value	.000	.098	.016	.016	187

a. Dependent Variable: TP

Charts

Histogram

Dependent Variable: TP

Mean =-9.61E-16
Std. Dev. =0.992
N =187

270
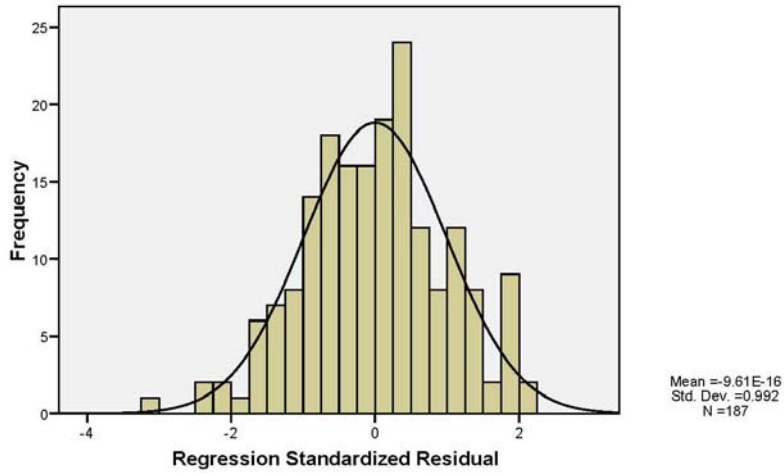
Normal P-P Plot of Regression Standardized Residual
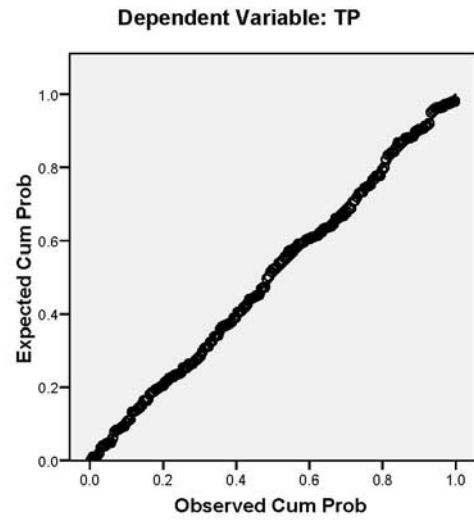
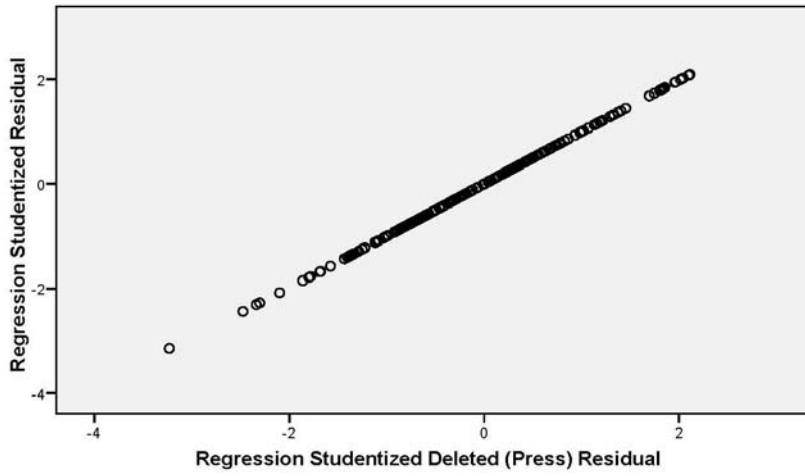### Dependent Variable: TP

Scatterplot

Dependent Variable: TP

272

Scatterplot

Dependent Variable: TP

273
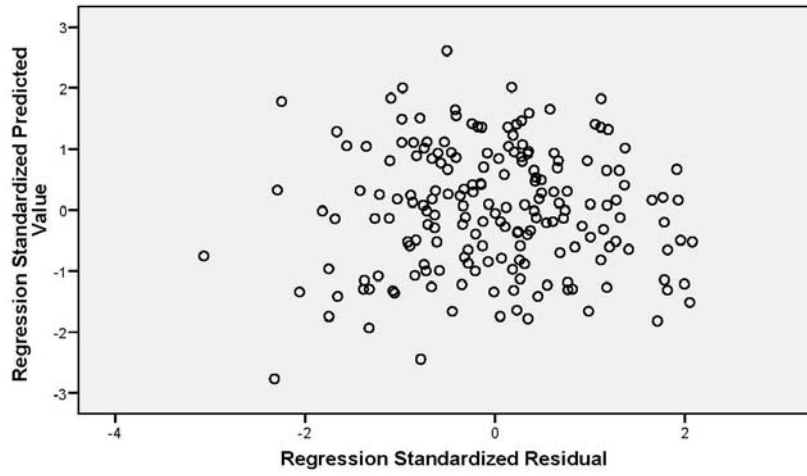
Appendix K

SPSS Multiple Regression Output for Total Institutional Learning

```
REGRESSION
  /DESCRIPTIVES MEAN STDDEV CORR SIG N
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS CI BCOV R ANOVA COLLIN TOL CHANGE ZPP
  /CRITERIA=PIN(.05) POUT(.10)
  /NOORIGIN
  /DEPENDENT TL
  /METHOD=ENTER Clan Adhocracy Hierarchical
  /SCATTERPLOT=(*ZPRED ,*ZRESID ) (*SRESID ,*SDRESID )
  /RESIDUALS DURBIN HIST(ZRESID) NORM(ZRESID) .
```

Regression

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\CUDissertation\Data Collection\cpl092108 dissertation data.sav

Descriptive Statistics

	Mean	Std. Deviation	N
TL	13.4639	2.79026	187
Clan	2.9007	.96339	187
Adhocracy	2.6887	.84359	187
Hierarchical	3.3898	.59551	187

Correlations

		TL	Clan	Adhocracy	Hierarchical
Pearson Correlation	TL	1.000	.754	.778	.405
	Clan	.754	1.000	.823	.416
	Adhocracy	.778	.823	1.000	.350
	Hierarchical	.405	.416	.350	1.000
Sig. (1-tailed)	TL	.	.000	.000	.000
	Clan	.000	.	.000	.000
	Adhocracy	.000	.000	.	.000
	Hierarchical	.000	.000	.000	.
N	TL	187	187	187	187
	Clan	187	187	187	187
	Adhocracy	187	187	187	187
	Hierarchical	187	187	187	187

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	Hierarchical, Adhocracy, Clan[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: TL

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.809[a]	.655	.649	1.65340

Model Summary[b]

Model	Change Statistics					Durbin-Watson
	R Square Change	F Change	df1	df2	Sig. F Change	
1	.655	115.574	3	183	.000	2.063

a. Predictors: (Constant), Hierarchical, Adhocracy, Clan

b. Dependent Variable: TL

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	947.840	3	315.947	115.574	.000[a]
	Residual	500.271	183	2.734		
	Total	1448.111	186			

a. Predictors: (Constant), Hierarchical, Adhocracy, Clan

b. Dependent Variable: TL

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.852	.720		6.738	.000
	Clan	.891	.228	.308	3.903	.000
	Adhocracy	1.613	.253	.488	6.369	.000
	Hierarchical	.498	.224	.106	2.226	.027

Histogram

Dependent Variable: TL
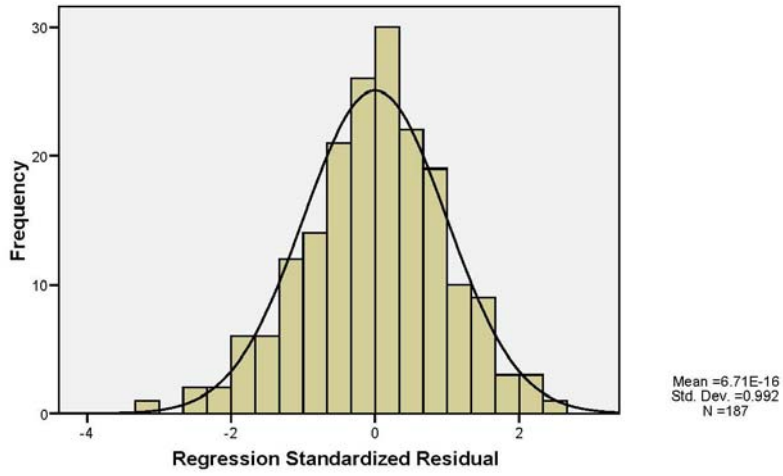
Mean =6.71E-16
Std. Dev. =0.992
N =187

Normal P-P Plot of Regression Standardized Residual

Dependent Variable: TL

277

Scatterplot

Dependent Variable: TL

278
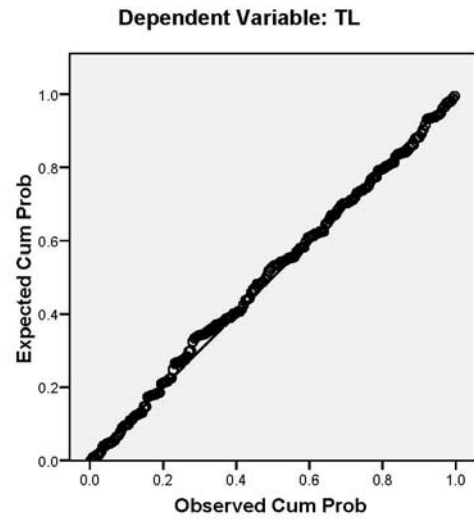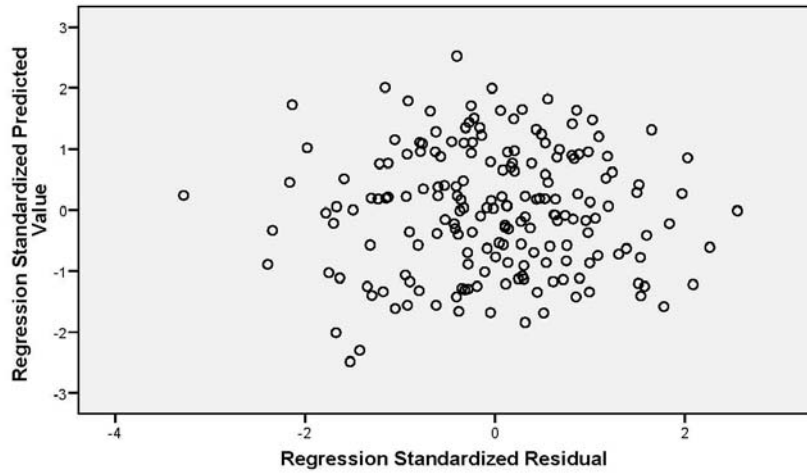
Scatterplot

Dependent Variable: TL
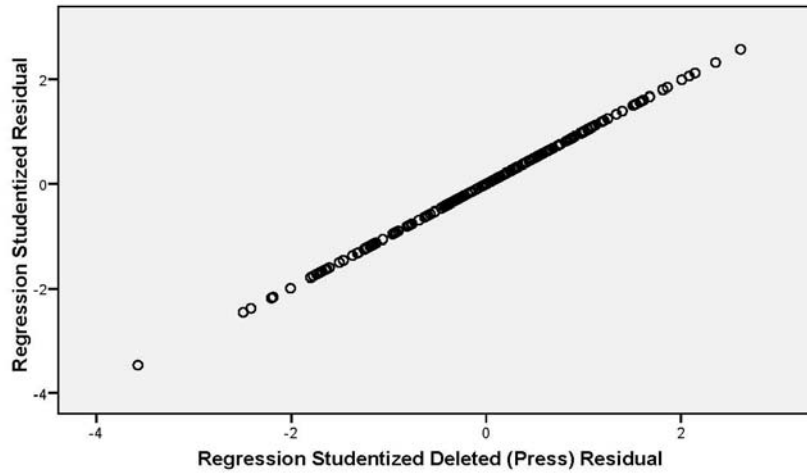
Appendix L

Permission to Use Copyrighted Material

Vicky G. Maloney

From:	Cameron, Kim [cameronk@bus.umich.edu]
Sent:	Thursday, November 20, 2008 12:01 PM
To:	Vicky G. Maloney
Cc:	mandyliumichigan@yahoo.com
Subject:	RE: Copyright Permission Request

I give Vicky Maloney permission to use the following materials in her doctoral dissertation. The materials may be used for student and research purposes only and must be referenced.

> From: Cameron, K. S., & Quinn, R. E. (2006). *Diagnosing and changing organizational culture*. (Revised Edition ed.). San Francisco, CA: Jossey-Bass.
>
> a. *Organizational Culture Assessment Instrument*
>
> b. Figure of Competing Values Framework (with culture types)

Sincerely,

Kim Cameron

Kim Cameron
William Russell Kelly Professor
Ross School of Business
and Professor of Higher Education
School of Education
University of Michigan
Ann Arbor, Michigan 48109
734-615-5247
Kim_Cameron@umich.edu

From: Mandy Liu [mailto:mandyliumichigan@yahoo.com]
Sent: Thursday, November 20, 2008 11:56 AM
To: Cameron, Kim
Subject: Fw: Copyright Permission Request

--- On **Thu, 11/20/08, Vicky G. Maloney <*maloneyvg@cctech.edu*>** wrote:
From: Vicky G. Maloney <maloneyvg@cctech.edu>
Subject: Copyright Permission Request
To: mandyliumichigan@yahoo.com
Date: Thursday, November 20, 2008, 8:23 AM

From: Vicky G. Maloney
Sent: Monday, November 17, 2008 4:39 PM
To: 'mandyliumichigan@yahoo.com'

1

Subject: Copyright Permission Request

Date: November 17, 2008

To: Dr. Kim Cameron

The University of Michigan

RE: Confirmation of Permission to Use

Dear Dr. Cameron,

I am requesting permission to use the following materials in my dissertation for Clemson University, Doctor of Philosophy Degree, Educational Leadership – Higher Education. The title of my dissertation was INSTITUTIONAL CULTURE, PERFORMANCE, AND LEARNING IN A TWO-YEAR TECHNICAL/COMMUNITY COLLEGE.

> From: Cameron, K. S., & Quinn, R. E. (2006). *Diagnosing and changing organizational culture.* (Revised Edition ed.). San Francisco, CA: Jossey-Bass.
>
> a. *Organizational Culture Assessment Instrument*
>
> b. Figure of Competing Values Framework (with culture types)

To confirm permission to use these two items in my dissertation, please respond to this message by email with a brief statement of permission to use these materials and specifying any conditions for use.

Thanking you in advance for a response by *November 21, 2008*.

2

281

With best regards,

Vicky G. Maloney

1018 Alice Drive

Sumter SC 29150

Phone: 803.236.8597

Email: vmaloney@ftc-i.net or maloneyvg@cctech.edu

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Vicky G. Maloney

You have permission to use these materials. I request that you also cite the original source and/or author, which is Dr. David Schwandt from which his model and survey were modified for this dissertation.
Dr. Margaret D. Gorman

On Wed, 19 Nov 2008 07:54:09 -0500, "Vicky G. Maloney"
<maloneyvg@cctech.edu> wrote:

> Date: November 17, 2008
>
>
>
> To: Dr. Margaret DeLaney Gorman
>
>   The George Washington University
>
>   Center for the Study of Learning
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>
>
> RE: Confirmation of Permission to Use
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> Dear Dr. Gorman,
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>dissertation for Clemson University, Doctor of Philosophy Degree,
>Educational Leadership - Higher Education. The title of my dissertation
>was INSTITUTIONAL Culture, Performance, and Learning in a Two-year
>Technical/Community College.
>
>
>
> 1.   Organizational Action Survey
>
> 2.   From: Gorman, M. D. (2004). Creating organizational
>knowledge
> during transformational change: A multi-site case study using an
>action theory approach. Unpublished doctoral dissertation, The George
>Washington University, Washington, D. C.
>
> a.   Table 3-5 OAS learning-performing factor descriptors, p.
>129.
>
>

1

283

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>
> To confirm permission to use these items in my dissertation, please
>respond to this message by email  with a brief statement of permission
>to use these materials and specifying any conditions for use.
>
>
>
> Thanking you in advance for a response by November  21, 2008.
>
>
>
> With best regards,
>
>
>
> Vicky G. Maloney
>
> 1018 Alice Drive
>
> Sumter SC 29150
>
>
>
> Phone: 803.236.8597
>
> Email: vmaloney@ftc-i.net or maloneyvg@cctech.edu
>
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>
> Vicky G. Maloney
>
> Director of Information and Learning Technologies
>
> Central Carolina Technical College
>
> 506 N Guignard Drive
>
> Sumter SC 29150
>
> Phone: 803.778.6612
>
> Email:  maloneyvg@cctech.edu
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2

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>#############
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Dr. Margaret D. Gorman
George Washington University
cell 202.425.7111

Vicky G. Maloney

From: Chris_Johnson@URSCorp.com
Sent: Monday, November 24, 2008 10:06 AM
To: Vicky G. Maloney
Subject: Re: Copyright Permission Request
Attachments: pic00900.gif

Dear Vicky,

Thank you for contacting me and congratulations on defending your dissertation Doctor!

I am pleased to allow you to use Figure 14 on page 80 from my dissertation. You can also have permission to use and reference the survey. Please reference as required for you dissertation and if any future use is required, please notify me.

Best wishes to a very successful future,
Chris

Dr. Chris G. Johnson
URS Corp
200 Orchard Drive, Suite 101
Gaithersburg, MD 20878
Tel: 301.548.5164
Fax: 301.869.8728
Cel: 301.237.7844
chris_johnson@urscorp.com

▼ "Vicky G. Maloney" <maloneyvg@cctech.edu>

"Vicky G. Maloney" <maloneyvg@cctech.edu>	To<Chris_Johnson@URSCORP.COM>
11/21/2008 11:18 AM	cc
	SubjectCopyright Permission Request

Date: November 17, 2008

To: Dr. Chris Johnson

        The George Washington University

        Center for the Study of Learning

1

RE: Confirmation of Permission to Use

Dear Dr. Johnson,

I am requesting permission to use the following material in my dissertation for Clemson University, Doctor of Philosophy Degree, Educational Leadership - Higher Education. The title of my dissertation was INSTITUTIONAL Culture, Performance, and Learning in a Two-year Technical/Community College.

From: Johnson, C. G. (2000). A theoretical model of organizational learning and performing action systems: The development and initial validation of a Parsonian action frame of reference through confirmatory factor analysis. Unpublished doctoral dissertation, The George Washington University, Washington, DC.

a.   A. Figure 14 Organizational Performing, p. 80

To confirm permission to use this item in my dissertation, please respond to this message by email with a brief statement of permission to use these materials and specifying any conditions for use.

Thanking you in advance for a response by November 21, 2008.

With best regards,

Vicky G. Maloney

1018 Alice Drive

Sumter SC 29150

Phone: 803.236.8597

Email: vmaloney@ftc-i.net or maloneyvg@cctech.edu

Vicky G. Maloney

2

287

Director of Information and Learning Technologies

Central Carolina Technical College

506 N Guignard Drive

Sumter SC 29150

Phone: 803.778.6612

Email: maloneyvg@cctech.edu

Vicky G. Maloney

From:	David Schwandt [schwandt@gwu.edu]
Sent:	Tuesday, November 25, 2008 12:36 PM
To:	Vicky G. Maloney
Subject:	Re: Copyright Permission Request

Dear Dr. Maloney,

You have my permission to use the below mentioned Figures in your disseertation.

Best regards,

David R. Schwandt

----- Original Message -----
From: "Vicky G. Maloney" <maloneyvg@cctech.edu>
Date: Monday, November 17, 2008 4:10 pm
Subject: Copyright Permission Request
To: David Schwandt <schwandt@gwu.edu>

> Date: November 17, 2008
>
>
>
> To: Dr. David Schwandt
>
>   The George Washington University
>
>   Center for the Study of Learning
>
>
>
> RE: Confirmation of Permission to Use
>
>
>
> Dear Dr. Schwandt,
>
>
>
> I am requesting permission to use the following materials in my
> dissertation for Clemson University, Doctor of Philosophy Degree,
> Educational Leadership - Higher Education. The title of my dissertation
> was INSTITUTIONAL Culture, Performance, and Learning in a Two-year
> Technical/Community College.
>
>
>

1

> 1.   The Organizational Action Survey
>
> 2.   From: Schwandt, D. R., & Marquardt, M. J. (2000). Organizational
> learning: From world-class theories to global best practices.
> Washington, DC: St. Lucie Press.
>
> a.   Figure of Parsons' General Theory of Action
>
> b.   Figure of Organizational Learning Systems Model - The Learning
> System
>
>
>
> To confirm permission to use these three items in my dissertation,
> please respond to this message by email with a brief statement of
> permission to use these materials and specifying any conditions for use.
>
>
>
> Thanking you in advance for a response by November 21, 2008.
>
>
>
> With best regards,
>
>
>
> Vicky G. Maloney
>
> 1018 Alice Drive
>
> Sumter SC 29150
>
>
>
> Phone: 803.236.8597
>
> Email: vmaloney@ftc-i.net or maloneyvg@cctech.edu
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