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The Influence of Organizational and Governance Structures on the Frequency of Management Skill Utilization of Community College Chief Executive Officers in the United States

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**THE INFLUENCE OF ORGANIZATIONAL AND GOVERNANCE
STRUCTURES ON THE FREQUENCY OF
MANAGEMENT SKILL UTILIZATION OF
COMMUNITY COLLEGE CHIEF EXECUTIVE OFFICERS
IN THE UNITED STATES**

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Dissertation submitted to the Faculty of the
Marshall University Graduate College
in partial fulfillment of the
requirements for the degree of

Doctor of Education
in
Educational Leadership

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Huntington, West Virginia 2007

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multicampus districts, skills

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ABSTRACT

Community colleges are purported to be in the midst of a leadership crisis due to the impending retirements of chief executive officers (CEOs) and senior administrators over the next several years. Concurrently, the demands upon CEOs to effectively and efficiently manage their institutions are more critical now in an effort to balance the demands placed upon them by public policy and institutional stakeholders. The purpose of this research was to examine the influence of institutional context, governance and organizational structures, on the frequency with which CEOs utilized certain management skills.

The study population was community college CEOs as identified by membership in the American Association of Community Colleges. Levels of each independent factor were identified through literature review and constituted a myriad of organizational and governance structures indicative of community colleges across the nation. Twenty-five management skills performed by CEOs were also identified through literature review, and, as the dependent factors, were measured on an anchored six-point rating scale. Comparative analysis on responses ($n = 468$) to the author-developed questionnaire was performed using multivariate analysis of variance at $p < .05$. Significant differences sufficient to address the research questions were not found. Ancillary analysis of respondents' comments suggests context, as defined by this study's variables, does have influence on the management skills used by CEOs.

DEDICATION

This dissertation is dedicated to my wife, Greta, and my children: Christopher and daughter-in-law, Lisa; Nicholas; Trevor; William; and grandson Jackson. Their support in the completion of the coursework and research, which culminated in the completion of this document, is only surpassed by the love through which they exhibited much patience and through which they provided much encouragement.

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CHAPTER 1: INTRODUCTION

Community colleges continue to weave themselves into the mainstream of the fabric of post-secondary education in the United States. At least two years of college education are “within the reach financially, geographically, and practically - of virtually every American” (Cohen & Brawer, 2003, p. 30). Community colleges have become important to the economic and workforce educational needs of most communities and most likely will continue to be well into the twenty-first century (Kubala, 1999).

With community colleges playing a significant role in education and workforce development, chief executive officers (CEOs) of these uniquely American institutions will be under continuing pressure from elected officials, state policymakers, and local governing boards to improve performance outcomes (Kubala & Bailey, 2001). Kubala and Bailey, in their second study of newly appointed community college CEOs, declare that they “must be all things to all people” (p. 794).

Background

From the 1950s to the 1970s, many states met the growing demand for postsecondary education through the development of community college systems that vary considerably in system attributes from state to state (Cohen & Brawer, 2003). Currently, as state policy makers continue to try to meet the demands of business and industry, public policy is formulated in an effort to create an environment for improved

performance of higher education systems in meeting public educational and training needs (The National Center for Public Policy and Higher Education, 2003). State legislatures and higher education governance systems often increase expectations, heighten accountability, and constrain financial resources as a means to leverage conformance to public priorities. Accordingly, many public community college administrators are challenged to utilize needed skills to be able to effectively and efficiently operate their postsecondary educational institutions (Boggs, 2003; Kubala & Bailey, 2001). This study will attempt to add to the research base in higher education administration by examining the influence public community college organizational structures and governance systems have on the frequency with which CEOs utilize skills with which they manage their institutions.

Management of Community Colleges

The demands from business and industry coupled with public policy create pressures for increased accountability, efficiency, and effectiveness for CEOs who are “faced with day-to-day pressures that tax their knowledge, patience, and skills as they strive to fulfill the missions of the colleges they lead” (Kubala, 1999, p. 183). CEOs are expected to demonstrate accountability of their public organizations through the effective operation of such functions as financial management, enrollment management, physical plant, and human resources management, while leading their colleagues toward “putting forth maximum effort toward attaining the proper goals” (Cohen & Brawer, 2003, p. 135.)

The types of leadership or administrative skills suggested by Cohen and Brawer (2003) are considered by Leithwood and Duke (1999) as skills exercised within

“organizational” (p. 52) or “managerial” (p. 53) leadership. Organizational leadership, as defined by Hitt, Black, and Porter (2005), refers to the “interpersonal process of involving attempts to influence other people toward goal attainment” (p. 350). This description, according to Hitt et al., places leadership at the center of the managing process. Today’s managers would not be able to maximize organizational performance without leadership. “Indeed, it would be difficult if not impossible to talk about the accomplishments of twenty-first-century organizations of all types – whether in business, government, education, or other settings – without referring to the role that leadership played in those successes” (Hitt et al., 2005, p. 349).

Organizational leadership is a significant part of the managerial role within organizations. For the purposes of this study, organizational leadership skills needed to operate the community college organization and motivate its members toward goal attainment will be treated as elements of the overall community college managerial process, and tandem to those managerial skills practiced by CEOs. This approach views leadership as essential to the managerial roles through which CEOs practice managerial skills (Yukl, 2006).

Community College CEO Roles

In pursuance of their organizational missions, CEOs must create a vision, raise funds, properly manage their resources, serve as mentors, arbitrators, economic developers, and be public servants (Kubala, 1999). Moriarty (1994) suggests that current literature challenges community college presidents to be “masters of change, harbingers of innovation, dreamers of visions, shapers of culture, builders of consensus, and perhaps

even movers of mountains – certainly movers of reluctant legislators” (p. 171). These functions are expected to be performed while meeting the needs of governing boards and other stakeholders, striving to motivate staff and faculty, and modeling ethical and caring behaviors for all constituent groups (Pierce & Pedersen, 1997; Moriarty). Vaughan and Weisman (2002), in a survey for the American Association of Community Colleges (AACC), report that community college CEOs perceive that they spend 56.3% of their time on internal activities. These activities consist of administrative tasks (22.0%), college meetings (21.8%) and informal meetings and interactions (12.5%). The same respondents report spending 30.9% of their time on external relations which consists of community, fundraising, and legislative activities, and, 12.9% of their time on professional development and other activities which includes professional meetings, reading, teaching, and all other activities (Vaughan & Weisman).

As a result of increased emphasis on performance and accountability, community colleges must have administrators who possess strong leadership and management skills (Hammons & Murray, 1995; Hoff, 1999) to more successfully maneuver within complex environments and cope with frequent change (Hoff). Amey and VanDerLinden (2002) suggest presidents today differ in backgrounds from those in 1985, with fewer having administrative or teaching experience in public schools and a greater proportion having varied experiences in both the public and private sectors. As a result of this shift away from the traditional career trajectory for a community college chief executive officer (CEO) position, it is plausible that different backgrounds foster candidates with different managerial skill competencies. These skills are thought to vary little from those

management functions and practices performed by CEOs within business enterprises who also must deal with equally complex environments and change (Drucker, 2001).

Traditionally, CEOs in most organizations perform specific activities or functions of planning, organizing, leading and controlling, and must possess the abilities and exhibit appropriate behaviors to carry out these functions (Robbins, 2000; Rue & Byers, 2000). Effective administration and management are operationalized by the abilities and behaviors, or skills, crucial to the success of the CEO.

Within the scholarly literature and the commercial press, some authors have made specific distinctions between leadership skills and management skills that are critical to effective organizational outcomes (Tucker, McCarthy, & Benton, 2002; Bennis, 1999; Hanson, 1996). This distinction has contributed to an imbalance in the emphasis placed on leadership skills as opposed to management skills in contemporary higher education research.

Within the organizational context, Yukl (2006) and Hanson (1996) use the terms leader, manager, and/or administrator interchangeably, although both acknowledge differences. Rost (1993) purports that attempts to conclusively distinguish between the concepts of leadership and management are “perfunctory and poorly constructed” (p. 134). Even with much research and publication on the topic of leadership in contemporary literature, distinct management skills are nonetheless necessary and complementary to leadership skills in order to effectively administer today’s complex institutions (Hoff, 1999; Gardner, 1990). Hoff (1999) suggests that in times of shrinking revenues and contextual ambiguity, institutional resources must be managed to continue services and programs currently being offered. However, a general consensus exists that

both leadership and management skills are needed to effectively and efficiently guide contemporary organizations (Yukl, 2006; Wren, 1995; Gardner, 1990).

Leithwood and Duke (1999, 1998) refer to the confluence of management and leadership functions, tasks, and behaviors, competently performed by educational leaders to facilitate the work of others, as “managerial leadership” (p. 40., 1999). Yamasaki (1999) refers to managerial leadership as those managers who practice leadership in the process of carrying out their managerial responsibilities. The confluence of these concepts may be attributable to the need for improved performance within organizations by giving attention to individual and institutional needs during times of rapid change (McFarland, Senn & Childress, 1995). This need for more attention to leading organizations has not, however, reduced the need for their efficient and effective management (Vaughan, 1994).

Management Skills

Discussions regarding management skills in contemporary management literature continue to place significant emphasis on a three-category typology made popular by Katz in 1955 (Certo, 2000; Dessler, 2004; Donnelly, Gibson, & Ivancevich, 1995; Mondy & Premeaux, 1993; Robbins & Coulter, 1999; Rue & Byars, 2000; Schoderbek, Cosier, & Aplin, 1991; Yukl, 2006). Katz made the assertion that successful administration is dependent upon the possession of technical, human, and conceptual skills by managers who have the responsibility to fulfill organizational objectives and direct the work of others (Katz, 1988). In a retrospective commentary in 1988, Katz stood by his original principles, but stated that managers at different levels need to possess these skills in varying degrees (Katz). He specifically singled out his oversimplification of the role of

the chief executive officer in his original work, acknowledging his understatement of the complex and difficult role in which most CEOs perform using technical, human, and conceptual skills (Katz).

The many roles of community college CEOs are not any less complex and/or difficult now than those found in the private sector at the time of Katz's assertion. The basic responsibility of the community college CEO is to administer the institution using leadership and good management, "two tasks that have many subparts and require a variety of skills" (Moriarty, 1994, p. 171). Vaughan (1994) states that by the time an individual reaches the presidency of an institution of higher education, skills and abilities need to be "acknowledged, honed, and applied" (p. 61) in such a manner as to focus on the broader issues of presidential leadership. However, he clarifies that, understanding and enhancing presidential leadership is not just identifying those skills and abilities needed by CEOs, but determining "*where* and *how* they should be utilized" (Vaughan, 1994, p. 61). For instance, Vaughan asserts that managerial skills are one group of skills the effective president will use to lead his/her institution. Vaughan states "A president who uses good management to make the vision possible serves the institution and the larger society well" (p. 68). It is the context within which community college CEOs utilize certain management skills cited in existing literature that is a focus of this research.

Management Skills in Community College Administration

Current research regarding management skills in community colleges emphasizes identification of gaps in skill proficiency of community college CEOs, identification of

competencies necessary for effective leadership, and investigation of satisfaction and/or methods to analyze, develop, and deliver leader training programs (Brown, Martinez & Daniel, 2002; Hammons & Murray, 1995; Townsend & Bassoppo-Moyo, 1997). After analyzing several studies which attempted to identify leadership training needs and recommendations, Brown, et al. (2002) conducted research with community college instructional leaders, who had completed a doctoral degree, to identify their perceptions of skills necessary for effective practice. As a result, a list of 48 skills in ten categories was identified by the study's participants. These ten categories include: leadership, communication, institutional planning and development, research methodology and application, management, policy, legal, finance, technology, and faculty and staff development.

Townsend and Bassoppo-Moyo (1997) asked senior academic officers in community colleges to determine necessary competencies for effective leadership to be used in making recommendations for professional preparation programs such as doctoral programs in higher education. The researchers coded the survey results into competencies and skill categories identified in an earlier study. These competencies included adaptive, communication, conceptual, contextual, integrative, interpersonal, and technical (Townsend & Bassoppo-Moyo, 1997).

Hammons and Murray (1995), in a study designed to develop a management assessment program, used competencies organized under widely accepted and recognized functions of management: planning, organizing, controlling, leading and directing, staffing, communication, and decision making. These functions are congruent with those

often identified with management theory extant in most business management texts under the rubric of management functions (Robbins, 2000; Rue & Byars, 2000).

Hammons and Murray (1995) stratified their study by six regional accrediting agencies and by enrollment sizes, while Townsend and Bassoppo-Moyo (1997) stratified their study using the 1987 Carnegie Foundation classifications of higher education institutions. Neither study, nor those cited by the respective authors, took into consideration the organizational structure or governance system under which the community college administrators were working. Traditionally, community college CEOs are prepared much like public and higher education (4-year) leaders are prepared. Educational leaders are taught to “plan, budget, supervise personnel, direct student services, evaluate programs” (p. 81) and perform other skills needed to effectively function in their roles, but these educational leaders are also increasingly demanding that skills be made more applicable to the community college environment (Bragg, 2000).

Recently reported findings from a national study indicate community college CEOs are coming into new positions with increased experience gained from multiple presidencies coupled with administrative experience from non-presidential posts. This trend may suggest greater emphasis is being placed on the CEOs’ possession of management and administrative skills from a variety of contexts as opposed to the traditional career path of academia (Amey, et al., 2002).

Structural Context of Community Colleges

A consistent definition of the concept of organizational structure or governance structure for community colleges is not found in the literature. Birnbaum (1988) defines governance as the structure and processes through which members of the institution

interact, influence, and communicate within the larger environment. Lovell and Trouth (2002) identify four existing taxonomies with which to describe the governance of community colleges, which they define as “the decision-making authority for an organization” (p. 91). Their review of existing literature, which focused on state governance patterns, proved to be contradictory about what constitutes an appropriate model of governance of community colleges.

According to Cohen and Brawer (2003), community college governance structures are generally organized as single districts, multiunit districts, state university systems and branch colleges, and state systems. This typology parallels the categories of institutional members of the AACC. According to the AACC’s 2005 Membership Directory, institutional members include multi-college districts, colleges within multi-college districts, multi-campus colleges, campuses of multi-campus colleges, university branch campuses offering the associate degree, and single [stand-alone] institutions. While there are variations from state-to-state in governance and organizational forms, public community colleges are often categorically differentiated from one another in the size of enrollment (Cohen & Brawer) as opposed to other contextual variables. But size is only one dimension of organizational context. The community college’s departmentalization, or organizational structure, is another.

Underwood and Hammons (1999) conducted a study of organizational structure to determine if significant differences existed among different sizes of institutions as well as to investigate changes in structure that have occurred over a five-year interval. By categorizing public single-campus community colleges’ organizational structures on the basis of departmentalization and not on their relationships to their enabling authorities

(i.e., board of trustees, parent institution, school district, or state board of education or coordinating policy council), Underwood and Hammons came up with five community college organizational models: conventional – vice presidents or deans reporting to the president; vice president or executive dean model – vice presidents or deans report to executive vice president who reports to the president; provost model – vice presidents for academic and other departmental directors report to a provost who reports to the president; instructional deans model – two or more deans in charge of instruction in several disciplines reporting directly to the president; department head model – heads of various other units report to the president. Their findings revealed that the conventional structure was most preferred regardless of institutional size (Underwood & Hammons).

Problem Statement

The increased importance of community colleges in delivering post-secondary education, and the growing expectations placed upon the CEO's role in effecting this delivery emphasizes the importance of addressing a potential shortage of leaders in the future within American community colleges (Evelyn, 2001; Shults, 2001; Vaughan & Weisman, 2002). By the year 2007, it is expected that 45% of current community college presidents will retire (Shults), and by 2010, this figure is expected to increase to nearly 79% (Vaughan & Weisman).

Katsinas and Kemper (2005) contend that the extent of the impending "leadership crisis" (p. 2) is much greater than originally anticipated by earlier predictions. They base their assertion on the premise that the number of actual two-year institutions in the United States is not easily calculated due to the inexactness with which institutions with multiple colleges and campuses report data, thus the exact number of CEOs is also understated.

Additionally, a significant number of community college faculty and mid-level administrators are planning to retire during this same time frame, thus those holding positions in the traditional career trajectory are nearing retirement. These retirements create opportunities for a new generation of community college leaders, but also leave a significant void of those with the knowledge and skills to fill chief executive officer (CEO) roles (Evelyn, 2001; Shults, 2001).

With community colleges seen as the standard bearer for workforce and skill-based education (Cohen & Brawer, 2003), it is expected that these institutions will need to be responsive and adaptive to rapid social and economic changes (Garavalia & Miller, 1996). President George W. Bush, in his January 2004 State of the Union address, pledged increased support for community colleges to continue to provide education and workforce training for the industries that are creating a large proportion of the new jobs (<http://www.whitehouse.gov/news/releases/2004/01/20040120-7.html>). In order to meet these and other public and policy makers' expectations, community college CEOs will need to possess essential skills in the areas of management and administration with which they may enhance their performance and positively influence organizational outcomes (Garavalia & Miller).

The AACC has initiated a major leadership development effort identifying skill sets and knowledge areas of effective CEOs. According to AACC's Vice President Margaret Rivera, the organization received a \$1.9 million grant from the W. K. Kellogg Foundation. These funds allowed the AACC to establish a leadership development program and organize a series of professional development "summits" delivered through conference formats and university-based training programs. Additionally, AACC

focused their assessment on current leadership development programs to further pinpoint key skill sets and identify best practices (personal communication, November 9, 2003).

Skills identified by AACC as essential for those currently holding or aspiring to hold a community college CEO position include the following: governance and organization, organizational development, promotion of diversity, assuming the role of CEO, personnel issues, research and planning, day-to-day management, managing technology, and managing relations media (http://www.aacc.nche.edu/Leadership_Programs). In recent research, community college presidents reported being unprepared for the level of politics involved in their new CEO positions, fundraising, budgeting, and the amount of relationship-building they were expected to accomplish (Shults, 2001).

The dearth of literature examining the relationship of contextual factors to skill utilization is overshadowed by research on identification of skills, leadership and managerial styles and traits, and administrative exigency (Vaughan, 1994). In 1980, however, a comprehensive literature review was conducted on empirical research that studied the relationships between organizational structure and organizational performance (Dalton, Todor, Spendolini, Fielding, & Porter, 1980). Dalton, et al., premised their study on the assumption that organizational structure affects the behavior of individuals within the organization. Although the researchers' primary conclusion was that more research needed to be conducted, they found little to suggest that organizational performance was attributable to structure of the organization.

Yukl (2006) contends that relevance of managerial skills is dependent upon "situational moderator variables" (p. 204) such as the manager's position, the type of

organization, and the nature of the external environment. Additionally, while most writers agree that managerial skills, in particular conceptual and human relations skills, are transferable from one type of organization to another, there is less agreement about transferability of technical skills at the executive level. In order to make a successful transition from one organization type to another, an executive must not only develop extensive technical expertise, he or she must also develop new networks of external contacts (Yukl).

As a result of the purported leadership crisis within America's community colleges, the possession of essential managerial skills by CEOs will continue to be a topic of major concern for boards, policy makers, and other institutional stakeholders. The question that was yet to be adequately addressed in the literature is the extent to which two contextual variables – organizational and governance structures – influence the frequency with which these skills are utilized by community college CEOs.

Statement of Purpose of the Study

The purpose of this study was to determine the influence, or effect, organizational and governance structures of public community and technical colleges in the United States have on the frequency with which CEOs utilize certain management skills. It was posited that the management skills needed to achieve institutional effectiveness, to improve operational efficiencies, and to effectively implement public policy are influenced by the structure of the organization itself and the structure under which the institution is governed. Using organizational and governance structures as the independent variables, CEOs were asked to indicate the frequency with which they utilize

certain management skills, the dependent variables, using a questionnaire instrument with an anchored rating scale (Johnson & Christensen, 2000).

Research Questions

In an attempt to fulfill the purposes of this study, the following questions were addressed:

1. Does the organizational structure of community and technical colleges influence the frequency with which certain management skills are utilized by their CEOs?
2. Does the governance structure of community and technical colleges influence the frequency with which certain management skills are utilized by their CEOs?

Methods

To address the research questions, the research followed a non-experimental quantitative design. Because the independent variables are categorical and the dependent variables are quantitative, the type of non-experimental research for this design was specifically comparative research (McMillan & Wergin, 2002). The study population (N=1016) consisted of the chief executive officers of the public institutional membership of the AACC. The sampling frame (N=986) derived from the study population, less 30 units randomly selected to participate in a pilot study, were sent an author developed questionnaire including four open-ended questions. A nonrandom sampling design was used to increase the number of potential responses to the survey. This approach does have significant risk in any generalization that may be inferred to a group beyond the collective respondents to the survey.

The questionnaire asked respondents to identify the frequency with which they utilized certain skills, and to choose the governance model and organizational structure which best represented their situations. In addition, four open-ended questions were included to improve validity of survey results.

Definition of Terms

The following terms were used in this study:

1. Frequency of utilization – A subjective perception by respondents evidenced by a response on an anchored rating scale with written descriptors ranging from “very infrequently” to “very frequently” for each item stem, or management skill (Johnson & Christensen, 2000).
2. CEO – The most senior/executive level official with overall administrative responsibility for a district, college, or campus unit (Amey, et al., 2002), and as identified as such in the 2005 Membership Directory of the AACC by titles such as president, chancellor, interim president, provost or director.
3. Management or managerial skills – Abilities or behaviors that are crucial to the effective actuation of management and administrative functions typically operationalized by specific activities (Robbins, 2000; Yukl, 2006).
4. Leadership skills – Abilities or behaviors that deal with the influencing of others as they relate to setting vision, defining mission, accomplishing goals, policy making, organizational change, or motivation (Leithwood & Duke, 1999; Yukl, 2006).
5. Community and technical college – A regionally accredited public institution which awards the associate in arts or the associate in science degree as its highest

degree (Cohen and Brawer, 2003), is individually accredited to do so through one of the six regional accrediting agencies of the Council for Higher Education Accreditation (CHEA), and is eligible for institutional membership in the AACC.

6. Organizational structure – Organizational structure will be defined by departmentalization as described by Underwood and Hammons (1999). Five models are prevalent: conventional – vice presidents or deans reporting to the president; vice president or executive dean model – vice presidents or deans report to executive vice president who reports to the president; provost model – vice presidents for academic and other departmental directors report to a provost who reports to the president; instructional deans model – two or more deans in charge of instruction in several disciplines reporting directly to the president; department head model – heads of various other units report to the president (Underwood & Hammons).
7. Governance structure – For this study, governance structure will refer to the decision-making authority for the institution which has the authority to appoint, direct, and remove the community college CEO (Lovell & Trough, 2002) operationalized by the typology used by the AACC to categorize their membership.

Significance

Garland, writing in *A Handbook on the Community College in America* (1994), challenges scholars to broaden the scope of research and to address various contexts in which two-year college administrators find themselves. He contends that leadership programs for professional development and training must also be broadened to include

those individuals within the CEO career trajectory who may eventually lead various types of institutions.

This study provides insight into the management skills necessary to effectively administer community colleges with different types of organizational and governance structures. The institutional contexts may create unique administrative and management challenges, but by identifying the skill sets most frequently used by CEOs for each particular organizational context, it will be easier to target skill and professional development opportunities for those aspiring to serve as CEOs, or those individuals currently serving in CEO positions who wish to build managerial skill proficiency in critical areas. Development and training programs may be focused to strengthen management skills of CEOs, thus using more effectively scarce professional development dollars.

By enhancing the management skills of administrators in community colleges efficiency and effectiveness of operations may be enhanced and public policy outcomes may be furthered. Additionally, if significant differences existed in the frequency of certain skill(s) utilization by CEOs of the various organizational structures, then inferences may have been made that the critical management skills needed by the CEOs of community colleges differ as a result of the organizational context. Such inferences would perhaps offer insights to topics for further research. By recognizing that certain organizational structures and/or governance systems require particular management skills to be effective, boards or chancellors may focus their attention on candidates who have experiences in similar contexts or exhibit skills conducive to their specific needs.

Finally, this study adds to the knowledge base of higher education administration by investigating the impact organizational and governance structures have on the frequency of skill utilization among public community and technical college CEOs who responded to this study. Findings from this research foster further inquiry into this topic.

Limitations

There were several limitations to this study. These included:

1. The target population for this study consisted of chief executive officers of the 1,016 public community and technical colleges and campuses who are members of the American Association of Community Colleges as identified in its 2005 Membership Directory. Any generalizability that may be inferred from the results of this study will be limited to the respondent group. Therefore, generalizability to public community and technical college members of this association beyond the respondents cannot be made without risk. This limitation weakens the study's external validity.
2. The researcher's interpretation of the definitions of governance and organizational structure as taken from the literature may not have matched the level of understanding that was shared by those who participated in the study.
3. Internal validity may have been compromised by the primary data collection method (i.e., a questionnaire to be completed by the sample population). Such self-reported information by respondents did not allow for verification of information and perceptions of respondents may not have been accurate in terms of their understanding of the contextual variables (Yukl, 2006).

4. CEOs' views of the general frequency with which they perform certain skills to carry out their day-to-day activities may have been necessarily subjective.
5. CEOs may have related their specific situations to one of several categories of governance and organizational structures, as depicted on the questionnaire, which may not have adequately represented the reality of the contextual situation of each respondent.

Summary

Community colleges have become an integral component of the delivery of higher education and work-force development programs nationally. However, these uniquely American institutions are being held to greater standards of accountability, are under financial pressures and constraints, and have to respond to businesses', students', and policy makers' increasing expectations (Wharton, 1997). These phenomena are occurring simultaneously with an apparent "graying" of senior administrative leaders. Together, professional associations and individual institutions are striving to identify appropriate training and educational venues to foster improved management and administrative skills to aid in meeting chief executive needs of the future.

This study was an attempt to determine if management skills as perceived by community college CEOs are utilized with equal frequency across institutions, or if skills were utilized more or less frequently based upon the type of governance and organizational structures of the particular institution. By using governance and organizational structures as predictors of skill utilization, CEOs may tailor more specifically their professional development activities. Governing board search

committees may use this information to make better appointment decisions by matching experience and skills of candidates to the needs of the particular institution.

While studies exist regarding organizational structures, governance structures, and management skills, none identified used organizational and governance structures as predictor variables for frequency of skill utilization. Accordingly, this study serves to add information to the vast pool of higher education administration literature.

CHAPTER 2: REVIEW OF LITERATURE

Over the last half of the twentieth century, community colleges have become significant components of higher education within the United States. This point is supported by several factors. First, the rate by which associate degrees were awarded outpaced baccalaureate degrees during the early nineties, and secondly, enrollment increases resulted in new two-year institutions being created in many areas of the country to meet demand (LaRose, 2003; Roueche, et al., 2002; Wolf & Carroll, 2002). In addition, the role these institutions play in community, economic, and workforce development continue to expand (Cohen & Brawer, 2003; Kubala & Bailey, 2001).

As demands from public policy, business and industry, and educational markets have increased over the last several decades, so has the administrative complexity of community college organizations. Community colleges in the United States are differentiated administratively from other organizations by the fact that most are public agencies, that faculty and students often share in decision making, and teaching and learning are primary outcomes (Cohen & Brawer, 1994). These differentiations are compounded by community college organizational structures and governance systems that vary from system-to-system and state-to-state.

But with heightened roles in workforce development and pre-baccalaureate education, and the increasing complexity of their administrative contexts, community colleges are purported to be in the midst of a “leadership crisis” (Shults, 2001, p. 1). According to Shults, by the year 2007, 45% of current community college presidents will retire, and by 2010, nearly 79% are planning to do so (Vaughan & Weisman, 2002). Piland and Wolf (2003) suggest a “crisis” (p. 1) exists, not specifically due to impending

retirements, but also to the lack of individuals willing and/or capable of filling leadership vacancies and continued difficulty or reluctance to draw women and minorities into candidate pools. These predictions have the American Association of Community Colleges (AACC) pursuing means to improve and increase leadership development programs to address the potential shortage of qualified chief executive officers (CEOs) in community colleges.

Community college CEOs need to possess a variety of skills and abilities to effectively and efficiently administer their institutions (Garavalia & Miller, 1996). The literature suggests that managerial skills CEOs should possess to achieve organizational objectives (Robbins, 2000; Rue & Byers, 2000) may be different from leadership skills but are no less important to community college CEOs (Yukl, 2006; Hoff, 1999).

According to Amey et al. (2002), community college CEOs are more frequently bringing administrative experience into their positions from multiple presidencies or non-presidential posts. Community college CEOs with administrative experience from other private and public sector positions as opposed to more traditional academic career experiences are increasingly finding their way into the chief administrative post (Amey, et al.). This trend may suggest that administrative skills honed from appropriate experiences, whether from inside or outside the organization, are more critical than a variety of academic experiences gained within the community college. Such skills include mediation and consensus building, managing change and a tolerance for ambiguity, coalition building, financial management and fundraising, and, community and governing board relations (Shults, 2001).

But the question that had not been addressed within the community college literature was whether contextual variables, such as organizational structure and governance systems, influence the frequency with which CEOs utilize certain skills. Quinlan (1995) suggested that the model of governance and system of operation of three Atlantic Canadian community colleges influenced the roles of its CEOs. Quinlan's study of three CEOs and 53 internal and external respondents of the three Atlantic Canadian community colleges found that although the colleges formally operated under a bureaucratic design, the day-to-day operations functioned informally and are influenced by the CEOs preferred leadership and management style. Although Quinlan's study did not ascertain a relationship between organizational context and frequency of skill utilization, his findings did indicate a relationship between organizational variables and role development.

If contextual variables of governance structures and organizational systems purportedly influenced the roles of CEOs in three Atlantic Canadian community colleges (Quinlan, 1995), then a hypothesis that contextual variable may have influenced the frequency with which certain skills are utilized by CEOs in American community college institutions may have been plausible. Insights into the relationship between the identified contextual variables and skill utilization may be used to help CEOs better understand contemporary administrative challenges, to improve hiring decisions for vacant CEO positions, and to identify professional development needs for those currently serving or desiring to serve as a community college CEO.

The remainder of this chapter will explore the theoretical basis within which this study was framed, the contextual variables, and the skills identified in the literature

deemed critical to community college CEO success. These topics are discussed from the functionalist perspective.

Educational Administration and the Functionalist Perspective

Educational administration is perceived by some as an ambiguous concept with many variations of meaning as it is applied in various contexts (Prestine, 1995). Prestine describes this ambiguity as having added to the complexity of reaching agreement on what constitutes the knowledge base in educational administration. In the late 1980s, the National Policy Board for Educational Administration pushed as one of its major agenda items the establishment of a common core knowledge base and skills component in an effort to reform the profession of educational administration (Scheurich, 1995).

Scheurich (1995) characterized this initiative to develop a knowledge base, embraced by the University Council for Educational Administration, as impossible due largely to the monolithic domination of research and theory by the functionalist perspective to the exclusion of other perspectives. Littrell and Foster (1995) concur with the “myth” (Scheurich, p. 32) of the existence of a knowledge base in educational administration, particularly if current administrative theory or management science is accepted as the base of knowledge from which to predict organizational behavior in educational environments.

Hanson (1996) sees no problem in using theory from other fields of study in educational administration. He contends the problems occur when the borrowed theory is not sufficiently “woven into the practice of educational administration” (p. 1).

Researchers and theorists in educational administration have offered several epistemological and methodological frames that have the potential to be usefully

“borrowed” as Hanson (1996) suggests, to study educational administration (Heck, 1998). Epistemology is the “basic theories of how knowledge is constructed and the interpretive framework that guides a particular research study” (Heck, p. 54).

Epistemological lenses through which to view the idea of a knowledge base in educational administration include in addition to functionalism, constructivism, feminism, post-structuralism, and postmodernism (Heck; Heck & Hallinger, 1999). Methodological frames, on the other hand, include the description, explanation, and justification of research methods such as quantitative analysis or qualitative approaches (Heck & Hallinger).

The functionalist perspective views the current body of knowledge in educational administration as having risen primarily out of management science, organizational theory, and behavior theory. These also apply to non-educational organizations and take into consideration power, position, and structure, with an emphasis on systems theory, contingency theory, and rational approaches to decision making (Heck & Hallinger, 1999; Littrell & Foster, 1995). Heck and Hallinger further describe the “structural-functional” (p. 144) perspective as the role played by managers in coordinating and controlling for goal achievement, and the role leaders fulfill through their personal traits or their positions of authority.

The pursuit by the National Policy Board of a common knowledge base in educational administration resulted in the identification of seven areas of practice, the combination of which was proposed to form the sought after knowledge base (Sanford, 1995). The areas of practice include (a) societal and cultural influences on schooling, (b) teaching and learning processes and school improvement, (c) organizational theory, (d)

organizational studies and policy analysis, (e) leadership and management process and functions, (f) policy studies and politics of education, and (g) moral and ethical dimensions of schooling (Sanford).

Prestine (1995) suggests that the proposed areas of practice are embedded in a functionalist perspective which has been the framework by which educational administration has been traditionally conceptualized. The functionalist focus has dominated the content and practices of most education and preparation programs of educational administrators largely due to the application of functionalism to administrative and organizational theory (Heck, 1998; Prestine, 1995; Scheurich, 1995).

There is much to be said in favor of this particular framework, which has traditionally identified the knowledge base (at least as informally evidenced and translated through course content and program offerings) as conceptualized around discrete, functional managerial areas of concern, namely, law, finance, organization, leadership, supervision. (Prestine, 1995, p. 270)

Prestine (1995) argues and Scheurich (1995) agrees, however, that the reliance on a single perspective, such as functionalism, will tend to constrict the evolution of knowledge and its application to practice in educational administration situations. Scheurich further admonishes the profession that continued overemphasis on the functionalist approach will tend to diminish contributions of other perspectives such as interpretivism, critical theory, and feminism.

Even with such warnings from these theorists, however, functionalism remains a significant and vast lens through which to view educational administration research

(Leithwood & Duke, 1999). Because of its ubiquity and its compatibility with managerial issues, it will serve as the theoretical framework for this study.

Educational Leadership

Leadership has been and continues to be a major focus of educational administration research. Educational organizations are necessary to carry out the functions of teaching and learning in modern societies, and as such will require leadership to fulfill these critical functions (Leithwood & Duke, 1999; Murphy & Louis, 1999). To assist in the understanding of existing leadership theory, Leithwood and Duke (1999, 1998) developed a classification and description of school leadership models as described in current educational research literature published between 1988 and 1995 in four prominent English-language educational administration journals. Reviewing 121 articles, Leithwood and Duke (1998) developed six broad categories into which leadership concepts from the literature may be assigned. The six categories include (a) instructional leadership, (b) transformational leadership, (c) moral leadership, (d) participative leadership, (e) managerial leadership, and (f) contingent leadership/leadership styles.

“Managerial leadership” (Leithwood & Duke, 1998, p. 40) is defined as the functions, tasks, and behaviors competently performed by educational leaders to facilitate the work of others within the organization. This definition parallels the concept as described by Yamasaki (1999) for community college deans, department chairs, midlevel managers and “others who aspire to be leaders as well as managers” (p. 67). Managerial leadership may be characterized as the confluence of the functional approach of

management science with forms of organizational and transactional leadership (Leithwood & Duke).

Hanson (1996) describes the management processes that are important for directing educational organizations as “leadership, motivation, communication, conflict management, change, and situational (contingency) techniques” (p. 2). Hanson’s description and subsequent expository tend to use the terms leader, manager, and administrator as interchangeable concepts. He does however, elaborate on the distinct differences of leaders and managers as one of strategic vision setting versus day-to-day operations respectively, emphasizing that most administrators in educational organizations function through exercising both skills sets.

For example, strategic management as described by Myran and Howdysshell (1994) consists of the future-shaping processes that determine mission, vision, and are accomplished through involvement of the larger community consisting of many institutional stakeholders. This integration is a leadership function and is different than operational functions necessary to maintain the organization. Both operate along a continuum and are interdependent, but are nonetheless necessary to the effective functioning of community colleges in dynamic environments (Myran & Howdysshell). Leithwood and Duke (1999) suggest that there is support for the use of managerial approaches to leadership in education literature similar to that found in classical management literature, but clarifies that this approach is more closely aligned to transactional rather than the transformational leadership approaches related to entrepreneurial, change-oriented, non-bureaucratic environments (Leithwood, 2001).

Webster (2000) labeled effective educational administrators who pursued leadership approaches to school management as “high-performing managers” (p. 89). The characteristics and management styles of these high-performing managers are similar to those labeled as educational leaders. Activities of high-performers include developing and communicating mission statements, setting and measuring expectations, staying in touch with key people in organizations, motivating and teaching, and recognizing the contributions of others. These activities are also similar to those described by Wallace (1996) for the educational leader, defined as the “one who conceives of his or her role as concerned primarily with educational processes and outcomes” (p 20).

Parsons (in Murphy & Louis, 1999) developed a framework around which levels of an educational organization may be studied: technical, managerial, and institutional. The technical level concerns the teaching-learning processes central to educational organizations. The managerial level consists of the leadership, administration, and organization of the institution, while the institutional level refers to the interface between the internal and external stakeholders such as students, parents, community and organizational members. These levels may be viewed separately; however, there is overlap among the various tasks, operations, and activities contained within them.

The Locus of Leadership and Management

There are authors and researchers in the literature and commercial press who have made stark distinctions between leadership and management. Gardner (1990), writing about the two constructs, states that “many writers on leadership take considerable pains to distinguish between them” (p. 3). This distinction has contributed to a greater

emphasis being placed on leadership as opposed to management in contemporary higher education research.

Alfred (1994) contends that expectations for contemporary community college presidents are that they will be leaders from the perspectives of some, and managers from the perspectives of others. Within the literature, however, there is a tendency to differentiate between leadership and management, which has contributed to a dichotomous treatment of the two constructs. Yukl (2006) suggests that some writers contend that “leadership and management are qualitatively different and mutually exclusive” (p. 5).

Bennis (1989, 1999) views management and leadership as distinct functions, suggesting that managers and leaders may even have conflicting values and personalities, although Yukl (2006) purports that there is a lack of empirical evidence to support such suggestions. Bennis (1989) writes that the differences between leaders and managers are “the differences between those who master the context and those who surrender to it” (p. 44). This suggestion that managers tend to work within the existing context to achieve objectives while leaders tend to move beyond the context in search of new opportunities, supports the depiction of management as more complacent with the status quo.

A euphemism that is frequently cited in discussions of the leader-manager dichotomy is that “the manager does things right; the leader does the right things” (Bennis, 1989, p. 45). Bennis (1999) continues with the theme that most American organizations are “under-led and over-managed” (p. 161), acknowledging that while both are vital to today’s organizations, they are profoundly different. Much agreement exists in the literature that management and leadership are significantly different, but are vital,

complementary functions that are neither mutually exclusive nor incompatible (Bennis, 1999, 1989; Covey, 1996; Gardner, 1990; Kotter, 1995; Rue & Byars, 2000; Tucker et al., 2002; Wren, 1995; Yukl, 2006). Kotter and Gardner agree that both management and leadership are equally valuable and necessary in complex organizations and environments.

Kotter (1995) suggests that strong leadership is not a substitute for weak management and may be even more detrimental to the organization than weak leadership and strong management. Both are necessary for today's successful organizations and the challenge is to combine strong leadership with strong management (Kotter). Kotter states that literature which purports that people cannot manage *and* lead should be ignored and efforts should be pursued to groom top people to do both effectively. Indeed, managers must accomplish many of their tasks through coordination and influencing of other people suggesting a need for strong leadership skills (Mondy & Premeauz, 1993).

Hoff (1999) contends that, based upon the descriptions provided by higher education administrators of contemporary issues facing those in leadership positions, both management and leadership skills are needed. Hanson (1996) suggests that leadership and management can be viewed as two lines with an intersecting axis and polar positions at either end of the lines labeled "strong" and "weak," respectively. Using this mental model, one can envision encountering strong leaders who are weak managers, and strong managers who are weak leaders. Hanson suggests that in educational organizations individuals often have great reform ideas or suggest innovative initiatives, but possess little capacity to carry them to fruition. Strong managers who are weak leaders also exist in the educational arena and are usually those individuals that maintain

legalistic conformance to standing policies and procedures, but fail to maintain sustained performance levels from subordinates. “What we need, therefore, are strong leaders who are also strong managers” (Hanson, p. 155).

Hanson’s (1996) model of the intersecting lines depicting the overlap between leadership and management is supported by others including Certo (2000), Cohen and Brawer (2003), Rue and Byars, (2000), Robbins (1991) and Yukl (2006). Certo (2000) suggests a Venn-like diagram with management and leadership overlapping, indicating “managers who are also leaders” (p. 326). Yukl suggests that current literature supports the intersection of the sphere of management thought with a sphere of leadership thought, but there is debate as to the level of convergence. “Defining managing and leading as distinct roles, processes, or relationships may obscure more than it reveals if it encourages simplistic theories about effective leadership” (Yukl, p. 6).

Certo (2000) contends however, that leadership may be considered as a subset of management as one of its primary functions – particularly the “influencing” function. He states that leading is concerned primarily with behavioral issues, but that “management is much broader in scope than leading and focuses on non-behavioral as well as behavioral issues” (p. 326).

Gardner (1990) offers a characterization of a leader within an organization who also has management responsibilities as “leader/manager” (p. 4) suggesting that most managers exhibit some leadership skills and most leaders will exercise management tasks. With an understanding that there is overlap between leadership and management, it is acknowledged that skills to actuate both are critical. Kotter (1995) defines tasks for management as planning and budgeting, organizing and staffing, controlling and problem

solving. Leadership tasks include setting a direction and aligning people, motivating and inspiring vision.

Managers in modern organizations cannot rely solely on management skills to achieve efficiency and effectiveness in carrying out the organizational mission, but must be able to combine the functions of management with effective leading (Certo, 2000). “To combine management and leadership, therefore, requires demonstrating a calculated and logical focus on organizational processes (management) along with a genuine concern for workers as people (leadership)” (Certo, 2000, p. 327). While many scholars view leading and managing as distinct processes (Yukl, 2006), others acknowledge that in practice, effective leadership and effective management should be viewed as imperative complementary constructs (Rue & Byars, 2000; Yukl).

The dichotomy that is prevalent in the literature between management and leadership is bridged by the agreement that while separate functions, they do converge, and both are required for achieving organizational effectiveness. For the purpose of this study, leadership tasks required for administration will be treated as critical elements of overall management skills required of community college CEOs.

Approaches to Management Theory

Drucker (1999) posited that management is a “social discipline” (p. 4). He uses this term to describe management as a discipline concerned with the behaviors of people and the interactions they have with one another, but the assumptions upon which the discipline rests are “vulnerable to continuous changes” (Drucker, 1999, p 5). He asserts that management as a discipline is largely a phenomenon of the twentieth century, although as a practice it has been around since the beginning of time (Drucker, 2001).

Perhaps next only to leadership theory, during the twentieth century management theory became a contorted maze of studies, theories, analyses and approaches which, in 1961, led Koontz (1986) to refer to this entanglement as a “jungle of approaches and approachers [sic] to management theory” (p. 242). In order to organize the vast and growing body of literature, Koontz classified the major schools of thought on management theory into six main groups: (a) management process school, (b) empirical school, (c) human behavior school, (d) social system school, (e) decision theory school, and (f) the mathematical school. Writing in a retrospective 17 years later, Koontz altered his classification to include 11 approaches to deal with the burgeoning field of management literature. These approaches include (a) empirical or case approach, (b) the interpersonal behavior approach, (c) the group behavior approach, (d) the cooperative social system approach, (e) the socio-technical systems approach, (f) the decision theory approach, (g) the systems approach, (h) the mathematics or management science approach, (i) the contingency or situational approach, (j) the management roles approach, and (k) the operational approach (Koontz).

A review of contemporary literature indicates that there are at least five major approaches to the study of management that are most frequently cited, and that largely parallel the historical development of management as a discipline. There is not a single, universally accepted management approach, thereby resulting in a need for students of management to gain an understanding of multiple theories and their relationship to practice (Donnelly et al., 1995). The major approaches to the study of management thought include the classical approach, the behavioral approach, the management science approach, the contingency approach, and the systems approach (Certo, 2000; Donnelly et

al.; Gibson et al., Mondy & Preneaux, 1993; Robbins, 2000; Schoderbek, Crosier & Aplin, 1991).

Classical approaches to management theory are those approaches that emphasize organizational efficiency to increase effectiveness or organizational successes (Certo, 2000). This includes the scientific management approaches and contributions of the general administration theorists who were largely concerned with the physical environment (Robbins, 2000; Donnelly et al., 1995).

The human resources or behavioral approach emphasizes the achievement of organizational success by giving serious consideration to the human relations and human behavioral variables within the social environment of the organization (Certo, 2000; Robbins, 2000; Donnelly et al., 1995). The management science, or quantitative approach, includes those approaches which use the scientific method and quantitative techniques to move the organization toward goal achievement (Certo; Robbins).

The contingency approach emphasizes that what managers do in practice depends on a given set of circumstances or on particular situations (Certo, 2000). The contingency approach attempts to outline the conditions or situations in which various management methods have a higher probability of success given the appropriateness of the chosen approach to the particular situation (Certo; Donnelly et al., 1995). Finally, the fifth approach to management theory is the systems approach. The systems approach perceives the operation of an organization as a system consisting of separate but interdependent parts (Certo). Robbins (2000) places the systems approach under the rubric of contingency approaches.

Contingency and systems approaches to management are considered the most contemporary of the five approaches. It is within the contingency approach to management that this study of the relationship of the organizational context, as defined by organizational and governance structure, to the frequency of skill utilization by community college CEOs will be grounded.

The contingency approach to management remains a popular approach (Certo, 2000; Robbins, 2000). Contingency perspectives recognize that management practices need to be modified to reflect situational factors. “An increasing body of research has told us that, in certain situations, universal principles don’t lead to the most effective outcomes” (Robbins, p. 606). A major tenet of the contingency approach is that there is not a one best way to manage and that the best way depends on the specific circumstances (Rue & Byars, 2000; Donnelly et al. 1995).

The contingency approach is predicated on the fact that organizations are different, are confronted with different circumstances, or contingencies, resulting in a different managerial decisions and actions to coordinate and integrate work activities (Robbins & Coulter, 1999). Certo (2000) describes the contingency approach as an if-then relationship: if certain situational variables exist, then a particular action will be taken by a manager. As such, it would be logical to assume that the utilization of different skills for the different managerial actions and decisions may result from organizational contingencies.

Robbins (2000) contends that since organizations are diverse in size, objectives, and the variety of tasks being accomplished, it would be difficult to find principles that would work consistently in all situations. Management scholars and practitioners of the

contingency perspective have been working to identify the variables or contingency factors including, but not limited to, organizational size, degree to which the job tasks are routine, the degree of uncertainty in the organizational environment, and individual differences among employees' skills levels, personal and professional needs and desires (Robbins). This quest for contingency factors has resulted in over one hundred variables being identified in the literature having a significant impact on what managers do (Robbins & Coulter, 1999).

Approaches to Analyzing Management

Management may be examined from an analytical perspective which focuses on what managers do by analyzing functions, roles, and skills (Dessler, 2004; Rue & Byars, 2000). Each perspective provides a different lens through which to observe the practice of management, offering managers an understanding of the work to be accomplished (functions), the complex set of behaviors to be performed (roles), and the necessary abilities (skills) to efficiently and effectively achieve organizational objectives (Rue & Byars). Before a discussion of these three analytical perspectives, it is appropriate to define the concept of management.

Management Defined

Approaches to management theory, such as the contingency approach, aggregate similar studies and theories in an effort to better comprehend what has become a vast collection of literature. Approaches to the study of management through functions, roles, and skills complement the literature by providing for a more thorough understanding of

what managers do. Approaches to theory or to analysis of management do not provide a definition of management as it is practiced in the organizational context.

Common definitions of management generally found in the literature consist of two elements. One element is that of a process, implying that inputs must be transformed into outputs, and the second element involves interaction with and among other individuals within the organization.

Drucker (1999) states that management exists in order to achieve organizational results. Organizing resources to attain these results, management “is the organ to make the institution, whether business, church, university, hospital, or battered women’s shelter capable of producing results outside of itself” (p. 309). This description is indicative of the universality of management principles.

Management may be described simply as a process of effectively and efficiently achieving organizational goals by working with and through people and other organizational resources (Certo, 2000; Donnelly et al., 1995; Mondy & Premeaux, 1993; Robbins, 1991; Robbins & Coulter, 1999). Implicit in this definition is the coordination of activities and integrating work of others to achieve results (Robbins & Coulter; Donnelly et al.).

Within the community college environment, Vaughan (1986) describes management as creating synergy. Management, a role he identifies as specific to the CEO, refers to bringing together the various components of the community college community in such a way that creates a unified system much greater than its parts in such a manner as to positively support the teaching and learning process.

Management Functions

Drucker (1973) attests that it is essential to consider the tasks to be performed by those practicing management in order to better understand the concept. “The most subordinate manager, we now know, may do the same kind of work as the president of the company or the administrator of the government agency; that is, plan, organize, integrate, motivate, and measure” (Drucker, 1966, p. 9).

Management functions are the rubric of activities that provide a general understanding of what managers do. Analyzing management through the examination of major functions is one of three general approaches - roles and skills are the other two approaches (Dessler, 2004; Rue & Byars, 2000).

Contemporary management literature describes the functions of management as consisting of (a) planning, (b) organizing, (c) leading, and (d) controlling (Dessler, 2004; Donnelly et al., 1995; Robbins, 2000; Robbins & Coulter, 1999; Schoderbek et al, 1991). Some contemporary management writers include other functions such as staffing to this list (Rue & Byars, 2000), or substitute the function of influencing in place of leading (Certo, 2000; Certo, 1989; Mondy & Premeaux, 1993).

As a result of an analysis of over 10,000 managers in 12 companies, Yukl (2006) describes the duties and responsibilities of managers as (a) supervision, (b) organizing and planning, (c) decision making, (d) internal and external monitoring, (e) controlling, (f) public relations, (g) coordination and communication, (h) consulting, and (i) administering. Yukl’s description of managerial responsibilities is more comprehensive than the typologies of management functions identified by his contemporaries.

A classical categorization of the responsibilities of managers was offered by Gulick (1996). Gulick developed the acronym “POSDCORB” to “call attention to the various elements of the work of the chief executive because ‘administration’ and ‘management’ have lost all specific content (p. 94).” The elements of Gulick’s description of work of the chief executive, admittedly based on Fayol’s functional analysis, include (a) planning, (b) organizing, (c) staffing, (d) directing, (e) coordinating, (f) reporting, and (g) budgeting (1996). Fayol had previously offered five functions as a way to classify the manager’s job: (a) planning, (b) organizing, (c) commanding, (d) coordinating, and (e) controlling (Robbins, 2000).

Functions offer a succinct way of classifying the work of managers. “It is believed that those who know administration intimately will find in this analysis a valid and helpful pattern into which can be fitted each of the major activities and duties of any chief executive” (Gulick, 1996, p. 94). Eccles, Nohria and Berkley (1992) contend that even though such functions may be a rational way to describe what managers actually do, few spend much time explicitly engaged in these functions. Rather, managers move frequently from task to task, giving attention to various issues as they arise, therefore engaging in many tasks of short duration. Still, functions of management, whether seriated in four or more categories, remain a popular way to classify what managers do.

In a study to develop assessment criteria for the purpose of determining managerial effectiveness of community and technical colleges, Murray (1993) concluded that although many community college administrators lack basic business management and leadership skills, specific functions were central to both business and college CEOs. These specific functions include (a) planning, (b) organizing, (c) controlling, (d)

leading/directing, (e) staffing, (f) communicating, and (g) decision making. In addition to these functions, college presidents are also called upon to carry out (a) fundraising, (b) public relations, (c) consultation, (d) budgeting, (e) articulating a vision, (f) crisis management, (g) mediation, (h) staff development, and (i) consensus building (Astin & Astin, 2000).

Management Roles

Perhaps the most widely known taxonomy of the roles of managers, offered to further explain the work of managers, is that of Mintzberg (1986) who developed his role categories as juxtaposition to the functional lens that had been made popular by Fayol. Through a process of coding the content of the activities observed in a study of executives (Yukl, 2006), Mintzberg characterized the work of managers as organized sets of behaviors that culminate in interpersonal, informational, and decisional roles (Rue & Byars, 2000; Mintzberg). These three role categories are further subdivided into a total of ten sub-roles. Informational roles include disseminator, monitor, and spokesperson (Dessler, 2004; Yukl). Decision-making roles include entrepreneur, disturbance handler, resource allocator, and negotiator (Dessler; Yukl). Interpersonal roles include liaison, figurehead, and leader (Dessler; Yukl).

Yukl (2006) observes that the sub-category of leadership, under the interpersonal roles category, includes motivating subordinates and maintaining favorable conditions within the work environment. The other nine roles identified by Mintzberg “involve distinct managing responsibilities, but leadership is viewed as an essential managerial role that pervades the other roles” (Yukl, 2006, p. 6).

Managerial Skills

The third approach to analyzing the content of managerial work is the skills perspective. Management skills are the abilities and/or behaviors that are necessary and critical to the successful execution of a managerial position (Robbins, 2000). Dessler (2004) and Yukl (2006) simply define managerial skill as the ability to do something in an effective manner. Effectiveness of a chief executive or manager is operationalized by the abilities and behaviors crucial to the position (Yukl; Robbins). Katz (1988) more specifically defines a skill as an “ability to translate knowledge into action (pg 49).” Certo (2000) contends that management skills may be the primary determinant of the effectiveness and efficiency of managers.

The study of managerial skills is most frequently approached using a three-skill taxonomy made popular by Katz (1988), which includes technical skills, human skills, and conceptual skills (Certo, 2000). Contemporary management literature continues to use Katz’s taxonomy to explore managerial skills (Certo; Dessler, 2004; Donnelly et al., 1995; Mondy & Premeaux, 1993; Robbins, 2000; Rue & Byars, 2000; Robbins & Coulter, 1999; Schoderbek et al., 1991; Yukl, 2006;).

Technical skills include the knowledge and proficiencies of a specialized area or field of expertise – the ability to use specific knowledge, resources, methods and techniques (Certo, 1989; Donnelly et al., 1995; Mondy & Premeaux, 1993; Robbins, 2000; Robbins & Coulter, 1999). Katz (1988) defines technical skills as specialized knowledge and analytical abilities that involve methods, processes, procedures, and techniques.

Human skills have been defined as those leadership or interpersonal abilities to work with other people both as individuals and in groups, building cooperation and motivation (Certo, 1989; Donnelly et al., 1995; Mondy & Premeaux, 1993; Robbins, 2000; Robbins & Coulter, 1999). Managers who have well-developed human skills are cognizant of their personal attitudes, assumptions and beliefs about those with whom they work (Katz, 1988).

Conceptual skills are the abilities needed by managers to conceptualize, think, and visualize abstract situations and an understanding of the overall organization in its relative environment – the ability to see the organization as a whole (Certo, 1989; Donnelly et al., 1995; Mondy & Premeaux, 1993; Robbins, 2000; Robbins & Coulter, 1999). Katz (1988) refers to conceptual skills as the coordination and integration of activities of the organization toward a common goal.

Katz (1988) also put forth the notion that as one moves upward through the organization, her/his reliance on these skills varies. At lower levels of the organization, those responsible for production or operations often rely more heavily on technical skills, whereas those at the upper levels of the organization more frequently use conceptual skills to guide and direct the organization (Katz). Human skills, according to Katz, need to be equally exercised by managers throughout the organization.

Robbins (2000) refers to Katz's three-skill taxonomy as "general skills" (p. 41) adding to the trilogy a fourth general category of political skills. He refers to political skills as those abilities one uses to enhance her/his own position (Robbins). In addition to the general skills, Robbins offers a list of "specific skills" (p. 41) that include (a) controlling the organization's environment and its resources, (b) organizing and

coordinating, (c) handling information, (d) providing for growth and development, (e) motivating employees and handling conflict, and (f) strategic problem solving. Yukl (2006) adds to Katz's taxonomy a fourth category referred to as "administrative" (p. 176) skills. Administrative skills are defined in terms of the ability to perform managerial functions, or behaviors, and "usually involve a combination of technical, cognitive, and interpersonal skills" (Yukl, p. 176).

Specific skills needed in today's complex organizations are those that enable managers to perform across managerial functions and fulfill multiple roles, which fosters improved performance of the tasks at hand (Robbins & Coulter, 1999; Tucker et al., 2002). "Managers need certain skills to perform the duties and activities associated with being a manager, in other words 'to do what a manager does'" (Robbins & Coulter, p. 14). Robbins and Coulter developed a list of 23 managerial skills representing activities that would constitute important elements of the planning, organizing, leading and controlling functions of management. These skills include (a) acquiring power, (b) active listening, (c) assessing cross-cultural differences, (d) budgeting, (e) choosing an effective leadership style, (f) coaching, (g) creating effective teams, (h) delegating/empowerment, (i) designing motivating jobs, (j) developing trust, (k) developing control charts, (l) disciplining; (m) interviewing, (n) managing resistance to change, (o) managing time, (p) mentoring, (q) negotiating, (r) providing feedback, (s) reading an organization's culture, (t) reducing stress, (u) scanning the environment, (v) setting goals, and (w) solving problems creatively (Robbins & Coulter).

Other contributors to the skills perspective offer examples of behaviors that continue to be an important approach to describing what managers do (Robbins &

Coulter, 1999). For example, Yukl (2006) describes managerial practices or behaviors that were developed through survey methods to include (a) planning and organizing, (b) problem solving, (c) clarifying roles and objectives, (d) informing, (e) monitoring, (f) motivating and inspiring, (g) consulting, (h) delegating, (i) supporting, (j) developing and mentoring, (k) managing conflict and team building, (l) networking, (m) recognizing, and (n) rewarding. It is through these and other abilities and behaviors, or skills, that effective managerial leadership is operationalized and critically important to the ultimate success of the CEO.

Each of the three approaches to analyzing management has merit in the perspective each offers. An understanding of functions, roles and skills, however, is necessary to understand what managers actually do (Rue & Byars, 2000).

But in the final analysis, a successful manager must (1) understand the work to be performed (the management function); (2) understand the organized set of behaviors to be performed (the management roles); and (3) master the skills involved in performing the job (the management skills). Thus, these approaches to analyzing management are not mutually exclusive; they are necessary and complementary approaches. (Rue & Byars, 2000, p. 9)

Managers in Today's Community Colleges

As American community colleges continue to expand their role within the higher education community, chief executive officers continue to grapple with increasingly complex administrative, academic, and political environments (Wharton, 1997). Individuals moving into administrative positions in community colleges are increasingly

doing so equipped with skills garnered from managerial positions, many from positions other than a previous presidency (Amey et al., 2002).

Based on a survey taken in 2000, over 33% of community college presidents came into their positions from a provost position with 25% having previously held a presidential post at another community college – up from 1985 when 9% were previously provosts and 17% were previously presidents at other institutions (Amey & VanDerLinden, 2002). McFarlin's (1999) research suggests that a majority of future CEOs of community colleges are currently employed as mid-level professional community college administrators. This may suggest, as Amey, et al. purport, that CEOs of community colleges are perceived to have varied and complex responsibilities “for which management, administration, and leadership skills gained through particular and extended experiences is important” (p. 578).

Community college chief executive officers today demonstrate different career path trajectories than in 1985. These different experiences and backgrounds may suggest a need for management and leadership skills and experiences prior to assuming the top administrative position. Amey and VanDerLinden (2002) suggest that, more so today than in 1985, community college leaders are building careers within the community college sector thereby making it a labor market unto itself. This “professionalization” of the community college chief executive role perhaps point to a greater need for various assessments and research on skill sets, training and professional development, and best practices (AACC, 2003). Upon reviewing literature on community college administration, Garavalia and Miller (1996) conclude that prior to the mid-nineties the

literature had an undefined base. Few empirical studies specifically addressed the needs, skills, and roles of community college administrators.

Management Skills of Community College CEOs

Vaughan and Weisman (2002) found that community college presidents spend over 56% of their time on internal activities consisting of administrative tasks, attending meetings, and engaging in informal interactions with staff. Based upon a review of current literature, Wallen (2002) compiled a list of 18 activities and skills viewed important by community and technical college presidents and perceived as necessary for professional development. Of the 18, the first four activities are management related activities including budget management, salary administration, institutional and strategic planning, and technology planning. Five additional activities were of a managerial nature including employment practices, risk management, legal issues, use of presentation software, use of administrative software, and time management. The remaining eight activities include leadership, political, and relationship building activities.

Reflecting on this research, community college CEOs may best be described in terms of Gardner's (1990) characterization of "leader/manager." Gardner's characterization of leaders of organizations who also have management responsibilities includes tasks such as (a) thinking for the long-term; (b) understanding the organization's larger environment and trends; (c) influencing within and across bureaucratic boundaries; (d) emphasizing vision, value, motivation and the relationship dynamics between leader and follower; (e) exercising appropriate political and conflict resolution skills; and (f) thinking in terms of renewal and reinventing the organization looking beyond immediate tasks. Managerial tasks for the same leader/manager include (a) planning and priority

setting; (b) organizing and institutional building; (c) keeping the system functioning through (1) mobilizing and allocation of resources, and (2) staffing and ensuring vitality of the team; (3) creating and maintaining appropriate procedures; (4) directing; (5) delegating and coordinating; (6) providing a system of incentives; (7) reporting; (8) evaluating and maintaining accountability; (d) setting agendas and making decisions; and (e) exercising political judgment minimizing goal and mission conflicts (Gardner).

The terms “competencies” and “areas of expertise” were prevalent in the literature, often used synonymously with “skills” and “functions,” to refer to the abilities, tasks, and/or activities that are actuated by those in managerial positions who serve to translate knowledge into practice (Brown et al., 2002; Hammons & Keller, 1990; Townsend & Bassoppo-Moyo, 1997). The term “management practices” may also be used interchangeably to refer to those skills and skill sets needed by community college CEOs. Not uncommon in the identification of managerial skills, activities may often be included under the function of leadership.

In an attempt to develop a synthesis of managerial practices or skills for community college CEOs, a comprehensive list was compiled from current literature. The competencies or managerial practices identified within the literature were combined with the previously discussed 23-item set identified by Robbins and Coulter (1999) and the 14-item set of managerial practices delineated by Yukl (2006) to form a comprehensive set of managerial competencies for community college CEOs. The intent of this literature review is not to define the managerial skills or competencies needed by community college CEOs, but to ascertain those skills or competencies being used in contemporary research and those cited by major works.

The American Association of Community Colleges (AACC) identified the characteristics and professional skills that all leaders of community colleges should possess and on which professional development activities should focus (AACC, Leadership Programs, 2003). These skills were developed through its Leadership Task Force whose primary purpose was to address the need for trained leaders to stem the growing leadership crisis in American community colleges. Based on an on-line survey conducted in 2001 by AACC, Shults (2001) reported that by 2007 nearly 45% of community colleges will need to fill a vacancy with a properly trained CEO. The AACC's identification of critical professional skill sets are categorized into five major areas: (a) understanding and implementing the community college mission; (b) effective advocacy; (c) administrative skills; (d) community and economic development skills; and (e) personal, interpersonal, and transformational skills (AACC, 2003).

The first AACC (2003) professional skill set category, identified as understanding and implementing the community college mission, include such skills as (a) understanding and implementing the role of the college within its community, (b) developing a strong orientation toward the community college, (c) creating a student-centered environment, and (d) valuing and promoting diversity. The second professional skill category identified by AACC as containing skills for effective advocacy include (a) knowing how to work with legislators, (b) fundraising and development, and (c) effective use of data and research.

The administrative skill sets category, as determined by the Leadership Task Force of AACC (2003) include skills related to (a) governance and organization, (b) organizational development, (c) promotion of diversity, (d) assuming the role of CEO, (e)

personnel issues, (f) research and planning, (g) day-to-day management, (h) managing technology, and (i) managing relations with print and electronic media. Community and economic development skills include (a) developing partnerships with business and industry, (b) developing linkages to schools and universities, (c) encouraging civic engagement, and (d) participating in strategies for community development. Finally, skills identified as personal, interpersonal and transformational include (a) working with staff to promote college mission and values, (b) maintaining and demonstrating a code of ethics, (c) projecting confidence and competencies of a leader, (d) modeling diversity and succeeding in any environment, (e) interviewing and evaluating personnel effectively and fairly, (f) balancing all aspects of the job, (g) institutional politics, (h) flexibility and negotiation, (i) public speaking and writing, and (j) function in a way that demonstrates self-mastery.

It should be noted that during AACC's on-line survey in 2001, current community college CEOs identified aspects of their jobs for which they had not been prepared. The most frequently cited responses include: (a) had not fully understood the overwhelming nature of the job, (b) level of politics involved, (c) fundraising, (d) budgeting, and (e) amount of relationship building they were expected to accomplish (Shults, 2001). This may indicate that current community college CEOs came into their current positions lacking certain managerial skills. While it is generally agreed that certain personal characteristics are needed to be an effective community college administrator, Garavalia and Miller (1996) contend that effective administrators need professional skills such as (a) planning skills, (b) office management skills, (c) organizational skills, (d) human relations skills, and (e) financial management skills. Vaughan (1986) writes that

administrative skills are usually a specific requirement often identified by board members in advertisements for prospective presidential candidates.

Porter (2003) conducted a comprehensive literature review to develop a set of 25 competencies considered important in a study to perform an assessment of higher education administrators who had graduated from two public university doctoral programs. The competencies, which were used to develop the “Administrative Competencies Questionnaire” (p. 73) used to assess administrators’ perceptions of relative importance, were divided into four categories: (a) management group, (b) leadership group, (c) human relations abilities, and (d) curriculum competencies.

Porter’s study did not find that any of the predetermined competencies were considered unimportant to higher education administrators (2003). She did, however, find significant differences in perceived competence of respondents at the time of graduation and at the time the survey was completed, perhaps indicating improvement of skills is attributable to on-the-job experience.

Porter’s (2003) competencies identified under the management group include (a) managing the institutional resources of time and funds; (b) gathering, analyzing and interpreting data for the purposes of making informed decisions; (c) creating an organizational governance structure; (d) building consensus; (e) mediating and resolving conflict; (f) delegating without micromanaging; (g) building and facilitating team, thereby promoting cooperation; and (h) managing personal time.

Competencies included by Porter (2003) in the leadership group are (a) speaking and writing in a clear and concise manner; (b) identifying problems and their solutions; (c) setting institutional goals; (d) considering diverse points of view and being open to

new ideas; (e) designing a strategic plan; (f) forming partnerships with the business world; (g) developing relationships with local, state, and national political figures. The human relations abilities as described by Porter include (a) choosing a competent staff, (b) planning and implementing a staff development program, (c) training and motivating staff, (d) fairly evaluating staff, (e) evaluating faculty and recommending faculty for promotion and tenure, and (f) managing staff resources in an effective manner. The fourth group of competencies identified as the curriculum competencies include (a) planning and implementing new academic activities, (b) relating research to teaching, (c) developing interdisciplinary programs, and (d) team teaching courses.

Brown et al. (2002) conducted a study of community college chief academic officers' perceptions of skills necessary for effective practice, skills emphasized in their doctoral programs, and recommendation for doctoral coursework. This study was conducted using instructional leaders in public two-year institutions who had completed doctoral programs. A stratified random sample was used to select a sample of 300 participants. The sample included representation from 46 states and from across the six regional accrediting associations (Brown et al.).

Based on the current trends, a position as senior academic officer is the third most likely previous position to be held by a community college CEO next to provost or president of another institution (Amey & VanDerLinden, 2002). Therefore, in as much as senior academic officers are likely to be considered as potential candidates for vacant CEO positions, their needs and perceptions of necessary skills should be appropriately considered as relevant to CEO managerial skills.

Brown et al. (2002) developed a survey instrument by identifying a comprehensive list of 48 specific skills in ten categories. The categories include (a) leadership, (b) communication, (c) institutional planning and development, (d) management, (e) policy, (f) research methodology and application, (g) legal, (h) finance, (i) technology, and (j) faculty and staff development.

Based upon the survey results, Brown et al. (2002) concluded that each skill included in the survey was perceived to be important by the respondents in effectively fulfilling the job responsibilities. Specifically, the skills included in the survey under the leadership category were (a) developing and communicating a vision, (b) understanding and application of change, (c) understanding of organizational theory and culture, (d) motivation strategies, (e) incorporating ethics and values in the workplace, (f) understanding of leadership theory and styles, (g) mentoring practices, (h) self-analysis and awareness, (i) understanding the community college mission, (j) multicultural awareness, and (k) understanding of collaborative decision making. The communication category as developed by Brown et al. included (a) perception and impression management; (b) networking skills; (c) effective listening and feedback skills; (d) effective writing skills; (e) effective public speaking skills; (f) understanding of small group dynamics; and (g) conflict resolution, mediation, and negotiation skills.

Within the category of institutional planning and development, the following elements were included (a) knowledge of marketing and external public relations; (b) fundraising; (c) grant writing; (d) program development and implementation; (e) institutional effectiveness: assessment and analysis; (f) retention: documentation and initiatives; and (g) student recruitment strategies. The management category included (a)

delegating, (b) evaluation and recommendation of personnel, (c) organizing and time management skills, and (d) enrollment management and schedule development. Skills in the policy category included (a) accreditation processes and procedures; (b) state governance policy and structure; and (c) board and local governance, policy, and procedures (Brown et al. 2002)

Research methods and application skills identified by Brown et al. (2002) included (a) interpretation of surveys and research, (b) statistical research methodology, and (c) statistical software application. The legal skills category included skills needed to enable an understanding of legal issues, while finance skills included (a) local, state, and federal policy and funding formulas; (b) long-range budgeting and projections; and (c) accounting skills.

Skills included within the technology category were (a) development of distance education mission, and (b) administrative integration and application of technology; computer proficiency: hardware and software. Faculty and staff development skills included in the comprehensive list were (a) curriculum development, (b) teaching and learning styles and methodology, (c) adjunct faculty considerations, and (d) customer service competence (Brown et al., 2002).

A third study investigating the knowledge and skills necessary for current academic administrators used an open-ended survey instrument asking four questions: (a) What knowledge, skills, and attitudes do you think are currently needed by people entering academic affairs administration? (b) What knowledge, skills, and attitudes do you think will become necessary for academic affairs administrators in the next five to

ten years? (c) gender; and (d) doctoral status – specifically identified as Ed.D. or Ph.D. in higher education administration (Townsend & Bassoppo-Mayo, 1997).

Townsend and Bassoppo-Moyo (1997) did not predetermine specific skills from the literature, but rather conducted a descriptive, exploratory study to gain an understanding of the perceptions of knowledge, skills, and attitudes necessary for community college academic administrators. The study of community college chief academic administrators was embedded as part of a larger study. A stratified random sample of 400 institutions including 160 two-year schools was selected. Of the 160 community college two-year academic officers surveyed, 47% returned the survey instrument. The responses were coded using professional competencies developed in *Responsive Professional Education* by Stark, Lowther, and Hagerty (as cited in Townsend and Bassoppo-Moyo, 1997). The professional competencies include (a) adaptive competence, (b) communication competence, (c) conceptual competence, (d) contextual competence, (e) integrative competence, (f) interpersonal competence, and (g) technical competence.

Specific skills identified by the survey respondents which were identified by the researchers fit into four of the seven competencies cited above. The four categories included (a) communication, (b) contextual, (c) interpersonal, and (c) technical. Skills grouped within the communication competencies include (a) computer communication competencies, (b) listening, and (c) speaking and writing. Competencies identified as contextual included (a) understanding legal issues, (b) understanding state and federal rules, (c) understanding curriculum development, (d) teaching and learning, and (e) instructional technology. Interpersonal competencies identified by the respondents

included (a) human relations, (b) participatory management, (c) facilitation of group interactions, (d) management or supervision, (e) team building, and (f) conflict resolution, mediation and negotiation. Within the technical group of competencies, the following skills were grouped: (a) competency in budgeting and finance; (b) analytical and thinking skills; (c) program and personnel evaluation; (d) labor management; (e) time management; and (f) scheduling classes (Townsend & Bassoppo-Mayo, 1997).

While only eight responses could be coded in the category of “conceptual competence,” the responses indicated a need for broad-based knowledge of liberal arts and theoretical knowledge of higher education (Townsend & Bassoppo-Mayo, 1997). The dominant need expressed by Townsend and Bassoppo-Mayo (1997) in their study was identification of contextual competence or understanding of the environment in which the chief academic administrator works.

Heffner (1992) used a qualitative approach to compare management skills of three successful small business owners and three successful community college presidents. The primary purpose of the study was to identify and compare the management skills of each group. In preparation for her study, Heffner compared descriptions of eight community college presidents in Mississippi from which she was able to conclude that the primary duty of the community college president was to serve as the chief executive officer of the college with authority to manage and direct all affairs of the college. Heffner found the job descriptions of the eight community college presidents in Mississippi contained a number of management skills.

Heffner (1992) identified 14 management skill categories using literature sources from 1979 to 1991. The categories include (a) information gathering and use, (b)

planning, (c) organizing, (d) staffing and directing, (e) managing finances, (f) managing time, (g) comprehending technology, (h) facilities planning and design, (i) controlling inventory, (j) handling distribution, (k) dealing with legal concerns, (l) understanding operations, (m) purchasing, and (n) controlling.

Heffner (1992) found that the three community college presidents and the three small business owners shared seven out of the 14 skills areas, leading Heffner to conclude that management skills of community college presidents are very similar to the management skills of small business owners. The community college presidents did not share skills in (a) controlling inventory, (b) handling distribution, (c) dealing with legal concerns, (d) understanding operations, (e) purchasing, and (f) controlling.

Hammons and Keller (1990) developed a list of competencies from a comprehensive literature review organized into three cluster groupings: (a) leadership skills, (b) group related skills, and (c) personal characteristics. Hammons and Keller (1990) focused on identifying the competencies and personal characteristics and asking community college CEOs to rate the importance of each competency. The Delphi method was employed using a panel of 31 community college presidents randomly selected from a stratified list so that regional accreditation and enrollment size would be equally represented. Twenty-seven presidents completed the Delphi process.

In the final analysis, the panel reached consensus or stability on a number of competencies under the three cluster groupings. The first grouping of leadership skills included (a) delegation, (b) personnel selection, (c) decision-making, (d) interpersonal skills, (e) knowledge of and commitment to mission, (f) leadership, (g) planning, (h) visionary, (i) organizing, (j) information processing, (k) public relations, (l)

professionalism, (m) finance/budgeting, (n) performance appraisal, (o) analysis, (p) peer network, and (q) scholarly writing. The group related skills cluster included (a) motivation, (b) use of power, (c) entrepreneurship, (d) integrating, and (e) conflict resolution (Hammonds & Keller, 1990)

The third cluster of competencies of the Hammonds and Keller (1990) study was identified as personal characteristics. Although personal characteristics are not pertinent to this study, two competencies from this category may be considered more skill-based than personal: time management and communication – transferring information correctly.

Macera (1989) carried out a study to determine if there were significant differences in the management skills needed for success within academic and business communities or if they were more generic. Macera's mixed-method study built on existing research on presidential management skills garnered through qualitative approaches using Fortune 500 companies (1989). Using a sample of CEOs of two-year institutions in a three-state area including Connecticut, Massachusetts, and Rhode Island, a quantitative survey instrument enabled respondents to evaluate skills both in terms of executive relevance and their own performance and to participate in an interview subsample qualitative component (Macera).

Macera (1989) found statistical significance in the ratings based on sex, size of institution and excellence. All sixteen skills identified as being critical in the corporate sector were also found to be most pertinent to the academic CEOs in Macera's study. The qualitative results validated the findings of the quantitative portion with the exception of organizational structure (defined as public versus private institutions). In the qualitative portion, each of the responding presidents maintained that there were

differences between public and private organizations. No statistically significant differences were found in the quantitative component comparing corporate to academic sectors. The 16 skills used in the study and found to be viable and relevant to academic as well as corporate sector CEOs include (a) motivating the top team, (b) asking crucial questions and building information networks, (c) stimulating and recognizing creative ideas, (d) seeking advice and counsel, (e) making policy decisions, (f) knowing organizational alternatives, (g) bringing about organizational innovation, (h) structuring committees and conducting meetings, (i) developing strategic plans, (j) making impactful [sic] speeches, (k) making exceptional managers even better, (l) spotting overlooked problems and getting them solved, (m) resolving interdepartmental conflict, (n) negotiating the best deal, and (o) engendering loyalty and building commitment (Macera). Perhaps the most cogent finding of Macera's research was confirmation of the universality of management skills within corporate settings *and* academic organizations – in other words, corporate management skills and academic management skills are not substantially different.

Hammons and Murray (1998) contend institutional effectiveness is improved when administrators (a) are willing to establish a mission and facilitate goals; (b) have an ability to develop workable strategies for goals achievement; (c) involve other people, technology, and institutional resources effectively and efficiently; (d) exhibit a commitment to recruit, retain, and develop good human resources; (e) possess the courage and the commitment to follow through; (f) are willing to make needed corrections to strategy when necessary; (g) are willing to recognize and solve problems; and (h) involve appropriate members of the institution in decisions that affect them.

These attributes of effectiveness are much more likely to be present when the community college administrators are skilled in the use of accepted principles of management (Hammons & Murray).

There appears to be general agreement on many of the functions, roles and skills of community college CEOs in the literature. In fulfilling the functions and roles they are called upon to actuate, the challenges that exist within their broad-based responsibilities will continue to require improved skills.

They [community college presidents] are faced with day-to-day pressures that tax their knowledge, patience, and skill as they strive to fulfill the missions of the colleges they lead. They are called upon to be visionaries, fund raisers, managers, mentors, arbitrators, economic developers, and above all, public servants. Like the colleges they lead, they are asked to be all things to all people (Kubala, 1999).

Organizational Context of Community Colleges

While there are variations from state-to-state in governance and organizational forms, public community colleges are often categorically differentiated from one another by the size of enrollment (Cohen & Brawer, 2003) as opposed to other contextual variables. But size is only one dimension of organizational context. For the purposes of this research, organizational context was described as consisting of the organizational structure of the institution and the governance structure under which the CEO operates. The contextual variable of organizational structure of community colleges in this research referred to institutional departmentalization as described by Underwood and Hammons (1999) and consisting of five models.

Governance structure is generally defined as the decision making authority for the institution which has the authority to appoint, direct, and remove the community college CEO (Kubala & Bailey, 2001). In this study, the definition of governance in community colleges consisted of two dimensions, the first being operationalized through a governance model described as the category of institution as defined by institutional membership in the AACC. The second dimension will be operationalized by the decision-making authority to whom the CEO reports. These three main elements of organizational context as it is defined for this study will be further elaborated upon. However, it is necessary to discuss the theoretical grounding of organizational structures.

Contingency Theory in Organizations

Contemporary organizational thought emphasizes the integration of both the structural and human perspectives of organizations (Mondy & Premeaux, 1993). Even more recently, contingency perspectives of organizational theory have added an emphasis on fitting organizational features to the work situation (Certo, 2000).

Early contingency research looked at the fit between an organization's structure and its environment. Burns and Stalker (1996) described two organizational models that involved different management systems: mechanistic and organic (Burns & Stalker; Mondy & Premeaux, 1993). Mechanistic systems have characteristics, similar to those in classic management thought as offered by Weber's (1996) bureaucracy, which exhibits rigid structures and strict lines of authority (Mondy & Premeaux). Organic systems are much more flexible and loosely structured and exhibit more employee empowerment than do more rigid structures (Burns & Stalker; Mondy & Premeaux,).

Contingency theory is described by Simon (1997) as one of the eight schools of organizational theory. Simon purports that contingency theory focuses on the “way that departmentalization is dependent upon the technological, market, and other environments of the organization” (p. 27). Primarily, what constitutes an effective organizational structure depends on the goals and the social and technical circumstances of the organization. In Simon’s words, “different organizational designs are needed for different functions in different environments” (Simon, p. 51).

Contemporary Organizational Structure

Drucker (1998) declares that the primary task of management is to facilitate joint performance through setting of common goals and values, creating the right structure, and promoting training and development necessary for performance. The right structure, based upon the contingency theory of organizations, should be dependent on the nature of the organization and its environment. However, many contemporary organizations are organized under functional departmentalization as often reflected in their organizational charts (Rue & Byers, 2000; Daft, 1998).

Contemporary definitions of organizational structure contain at least three elements: (a) delineation of formal reporting relationships, number of levels in the organizational hierarchy, and the span of control of managers and supervisors; (b) grouping together of individuals with similar duties and responsibilities into departments and departments into the total organization; and, (c) designation of systems to ensure proper communication, coordination and integration across the organization (Daft, 1998; Donnelly et al., 1995; Rue & Byers, 2000). Departmentalization within many contemporary organizations follow a functional structure that groups individuals together

who have similar knowledge and skills, share common duties and responsibilities, and exercise such to achieve common goals to carry out a specific function within the organization (Rue & Byers; Daft; Donnelly et al.).

Organizational structure is thought to affect the behavior of organizational members while providing a foundational basis within which the organization operates (Dalton et al., 1980; Burns & Stalker, 1996; Simon, 1997; Walker & Lorsch, 1996). Walker and Lorsch, writing on organizational design choices between function and product or market – designs organized around specific products or services being offered or specific market segments – determined that the choice between the two primary structures may be based largely upon the most efficiently perceived means for achieving organizational goals. Dalton et al. (1980) determined that while there will be differences in the structure of organizations, within reasonable variances, there will be no significant differences in performance that is attributable to structure. A review of studies by Dalton et al. conducted in educational and industrial firms found no association between size of organization and performance. A study by Fielder and Gillo (1974) determined that there was not a relationship between organizational structure, size of the unit studied, and performance outcomes. Neither study considered management skills as a primary dependent variable.

Gulick's (1996) classic approach argued for a functional approach to organizational design to achieve optimal division of work in a complex organization. However, Walker and Lorsch (1996) suggested that choices for organizational design should be based on (a) which structure best optimizes the use of special knowledge and

skills, (b) which structure provides efficient use of organizational resources, and, (c) which structure allows for better control and coordination.

Community College Organizational Structure

Contemporary writers describe the functional approach to organizational structure as one of several accepted methods with which to provide form to activities. A consistent definition of the concept of organizational structure of community colleges is not found in the literature. Twombly and Amey (1994), while suggesting that the literature has less emphasis on discussion of organizational structure than on such issues as organizational climate, state that community colleges are generally known as hierarchical, highly bureaucratic organizations. The need for structure, they argue, is obvious since lack of structure would result in unproductive work environments.

Community colleges are generally organized by departmentalization around such functions as academic affairs, financial aid, admissions, student affairs, business affairs, marketing, and institutional advancement (Katsinas, 2003; Knapp, 1988), although there has been a recent tendency to flatten the organization in an attempt to improve operations, decentralize decision-making, and to pursue improved participative governance (Alfred, 1994; Twombly & Amey, 1994). But as the environments in which community colleges operate become increasingly complex due to growing external constituencies such as state boards, legislative oversight committees, boards of trustees, and business and industry, organizational structures will undergo additional change (Alfred). Alfred suggests that as organizational structures change, so do the roles of chief executive officers. As roles change, so do the skills needed to carry out the roles in order to manage and effectively deal with this complexity. Structural changes will result in

different and varied conduits of accountability, changes in lines of delegation and reporting, and less control over time (Twombly & Amey).

Organizational Models in Community Colleges

Knapp (1988) undertook a study to look at the formal organizational structure of community colleges which he characterized as hybrid, pragmatic, two-year institutions. With 759 responses to his survey of two-year institutions, he analyzed organizational charts submitted directly from the respondents and secondary data on each institution collected from independent sources. Knapp classified organizational structures of community colleges as (a) traditional model, (b) provost model, (c) chief operating officer model, (d) plural academic dean model, and, (e) multiple unit heads model.

The traditional model is indicative of institutions that have the three major department heads representing academic affairs, student affairs, and business affairs reporting directly in a line relationship to the president. In addition, a fourth officer responsible for development and/or college relations may also report to the president in a traditional model. The provost model was defined as having a single officer reporting directly in a line relationship to the president responsible for both academic and student affairs areas with other managers responsible for business affairs and institutional advancement or development also reporting directly to the president. The chief operating officer model has one officer reporting in a line relationship to the president with all functional areas reporting to this officer. The chief operating officer may carry the title “Vice President and Executive Dean” (Knapp, 1988, p. 67).

Two additional models include the plural academic dean model and the multiple unit heads model. The plural academic dean model is based on a structure which would

have at least two administrative officers responsible for academic affairs reporting directly to the president. This may include institutions that would have a separate dean responsible for such academic areas as continuing education, career programs, technology, health careers, and so forth. Knapp's multiple unit head model is described as those institutions which have four or more administrative officers reporting directly to the president in a line relationship or institutions which have four or fewer officers reporting to the president if those officers are not responsible for the major functions of academic affairs, student affairs, and business affairs as indicated under the traditional model. Organizations using such models would be relatively flat with a variety of deans and directors reporting directly to the president (Knapp, 1988).

Of the five models presented in Knapp's (1988) research, the traditional model was the most prevalent with 52% of all respondents indicating utilization of this structure. Next to the traditional model, the second most prevalent structure identified was the multiple unit head model. Knapp's research suggests that while community colleges are often thought to be innovative institutions, they tend to follow a more traditional approach to institutional structural organization.

Underwood and Hammons (1999) undertook a study designed to determine the organizational structures that were in place during the 1990s, and whether significant differences existed among different sizes of institutions. Targeting all public single-campus community colleges in the United States, the authors found that the most common organizational models were (a) conventional, (b) vice president or executive dean, (c) provost, and (d) instructional dean or department head.

Underwood's and Hammons' (1999) conventional model is similar to that of Knapp's (1988) traditional model. Underwood and Hammons characterize the conventional model as having vice presidents or deans reporting to the president. The vice president or executive dean model, as defined by Underwood and Hammons, parallels the chief operating officer model of Knapp. Both of these models have vice presidents or deans reporting to an executive vice president who then reports directly to the president. The provost model as described by Underwood and Hammons is also similar to the model as defined by Knapp – vice presidents for academic and student affairs report to a provost who reports directly to the president. The instructional dean model defined by Underwood and Hammons is similar to Knapp's plural academic dean model. As defined by Underwood and Hammons, the instructional dean model exists when two or more deans in charge of specific academic departments or disciplines report directly to the president. The department head model as defined by Underwood and Hammons is very similar to the multiple unit heads model described by Knapp – in addition to the vice presidents or deans, heads of various other units report directly to the president.

Underwood's and Hammons' (1999) research found that the conventional model was reported as the organizational structure most common five years before the study and the most common structure in use at the time of the research. Seventy-five percent of the responding institutions were using the conventional model five years before the study, and 75% of the respondents stated that they were currently using this model. Underwood's and Hammons' study confirmed Knapp's (1988) findings that the traditional or conventional model was the most common among community college

structures today. While Knapp reported the multiple unit head model as the second most described model, the more recent study conducted by Underwood and Hammons found the vice president or executive dean model to be the second most commonly reported model.

Contemporary Trends of Community College Structure

Alfred (1994) suggests that many of today's community colleges are redesigning their structures to resemble flat organizations, purportedly to foster results oriented cultures. This structural reinvention, precipitated by changing student expectations and increasing competition, is associated with a transformation that removes the silo framework often typical of bureaucratic organizations. Alfred contends the benefit from this new structure is that students, rather than faculty and staff, figure more prominently in defining institutional value.

Alfred (1994) also suggests that community college leaders will be responsible for development of self-regulating systems that operate with minimal managerial intervention – a divergence from the hierarchical orientation that appears to be present in most traditional or conventional community college organizations. These changes imply that new approaches to management will need to be adopted requiring new or improved managerial skills and practices of contemporary community college leaders.

Berger (2002) studied six predominately white, church-related higher education institutions to investigate how organizational structures of colleges may influence student learning. Berger contends that his findings suggest that organizational structures of the institutions in his study affect student learning, although he acknowledges that the study revealed little information about how one affects the other.

Indicating a need for further research on organizational structure and its impact on the ways institutions fulfill their mission, Berger (2002) suggests a need to study organizational structure as perceived by and engaged by students. Berger's contention is supported by DeMarte (1996) who suggests a need for strengthening organizational structures of community colleges to improve efficient decision-making and to achieve the college's stated goals and mission.

Katsinas (2003) states that while a need exists to study community colleges, there was not a generally recognizable method for obtaining representative samples of community colleges due to the fact that a standard classification scheme does not exist. Unlike the Carnegie classification scheme, the diversity of two-year institutions makes it necessary to have a classification system to assist state and federal policy-makers, researchers, as well as practitioners (Katsinas). The complexity of two-year institutions is further evidenced by Katsinas' assertion that while analyzing data obtained from the Integrated Postsecondary Education Data System (IPEDS), it was discovered that some institutions report data differently. Many multi-campus community college districts like the ten-campus Maricopa Community Colleges in Phoenix, Arizona report data to IPEDS separately for each campus, while the Miami-Dade Community College in Florida, which has six campuses, reports data as a single entry (Katsinas).

Katsinas (2003) proposed a classification system based upon type of control, geography, governance, and size. These attributes often appear in executive level job advertisements placed in publications most commonly and widely used for this purpose. Katsinas points out that trustees and search committees often seek candidates who can function within a college's specific area or community with leadership experience and

management knowledge required for the specific context (e.g. a rural, single-campus community college, a large, multi-campus urban district, or a suburban institution). This, he offers, is one reason the “type of control, geography, governance, and size are included in virtually every executive-level job advertisement” (p. 19) placed in major national community college and higher education publications. Katsinas defines governance structure as single or multi-campus systems, and type of control as (a) public, (b) private, (c) federally chartered (tribal), and (d) special use (military).

There is no question that the culture of a multi-campus urban or suburban community college district differs greatly from that of a single-campus urban or suburban college. The sheer size and administrative complexity of a multi-campus system that includes district functions such as marketing, academic affairs, financial aid, admissions, registration, business affairs, and institutional advancement requires a different skill set for district-level CEOs (Katsinas, 2003, p. 26)

Community College Governance

A primary responsibility of the chief executive officer of a community college is to engage in the governance process of the institution in tandem with its governing authority, typically a board of governors or board of trustees (Gaskin, 1997). This responsibility, according to Vaughan (1986), often connotes a visual image of a highly bureaucratic pyramidal structure with a CEO at the top. The definition of governance within the community college literature, however, does not tend to have a discrete meaning.

Governance may be referred to as “governance of” community colleges and “governance within” community colleges. Governance *within* community colleges refers to the internal structures, processes, and relationships that are specific to the institution itself and those members within it. Participatory governance models that foster shared decision-making between the senior administration and faculty representatives are examples of governance within the institution itself. The relationship between the CEO and the institutional governing board also represents governance within the institution (Kubala & Bailey, 2001).

Governance *of* community colleges refers to the decision-making structure within which the institution exists and through which its CEO is appointed, and the point at which most policies governing its internal structures and processes are determined (Cohen & Brawer, 2003; Lovell & Trouth, 2002; Birnbaum, 1988). Governance of community colleges takes into consideration governance of the institution itself and the system-wide or state-wide decision-making authority governing the institution. Governing boards, either appointed or elected, are typically responsible for appointing the chief executive officer of the community college (Kubala & Bailey, 2001).

Birnbaum (1988) defines governance as the structure and processes through which members of the institution interact, influence, and communicate with the larger environment. Piland (1994) suggests that there are a number of different ways to describe the types of boards that govern the country’s community colleges, but two common descriptions include the level of control (either state or local), and board member selection (either appointed or elected).

Lovell and Trough (2002) identify four existing taxonomies with which to describe governance in community colleges, which they define as “the decision-making authority for an organization” (p. 91). Lovell’s and Trough’s description of the four taxonomies emphasizes the major differences and complexity of the various governance approaches that have developed in state coordination of community colleges over their history. The taxonomies describe both highly centralized governing board systems with high levels of state control and decentralized systems in coordinating board states.

Lovell and Trough (2002), purporting that there is little agreement on an appropriate model of governance for community colleges, define current trends in governance as reducing local control and moving toward greater involvement by state-level coordinating bodies as many community colleges are relying less on local financial support and more on state funding. This trend began in the 1960s as states initiated movement of the governance of community colleges from the state boards of education to post-secondary governing or coordinating boards. This trend continued through the 1990s (Boswell, 2000; Gaskin, 1997).

As a result, community college leaders will need training to cope with these changes as well as to gain an understanding of their relationship to various constituent groups, such as the state authorities (Lovell & Trough, 2002). Changing governance patterns often create problems and conflicts between and among the state governing authority, the legislature and local boards, particularly in situations when there is a jurisdictional dispute or lack of definition concerning governing responsibilities. Training in changing governance patterns may also indicate a need for skill development in managing institutions in an environment of greater state-wide control (Lovell &

Trouth). Greater state-level control is thought to make the job of community college CEOs more difficult, while decreasing the institutions' responsiveness to their local communities (Cohen & Brawer, 2003)

Cohen and Brawer (2003) describe community college governance structures as generally organized as single districts, multi-unit districts, state university systems and branch colleges, and state systems. This typology parallels the categories of institutional members of the AACC. The AACC's 2005 Membership Directory describes institutional members as multicollege districts, colleges within multicollege districts, multi-campus colleges, campuses of multi-campus colleges, university branch campuses offering the associate degree, and single [stand-alone] institutions. Katsinas' (2003) proposed two-year classification system defines governances in terms of single institution or a multi-campus system similar to the typologies of Cohen and Brawer (2003) and the AACC.

Summary

Current higher education and community college literature provides a comprehensive look at the specific functions and skills expected to be performed by community college CEOs. As CEOs of these uniquely American higher education institutions maneuver their organizations through changes in demographics, legislative changes in governance structures, restructuring of financial appropriations, and greater demands from the public and business community, improved skills will be necessary. In the face of a great demand for trained administrators to fill vacancies created by attrition and retirements over the next decade, it will become increasingly important for administrators to be able to identify those skills needed for specific positions as well as for candidates to be able to apply those skills within a given context.

The variability of governance and organizational structures of public community colleges is also evident from the literature. State control versus local control, single campus versus multi-campus environments, each adds dimension to the complexity of a CEO's responsibilities. This contextual complexity and the multiplicity of the skills needed to be an effective and efficient CEO, coupled with the impending vacancies purported to occur within the next few years, supports the need for further research to add to the growing body of literature on the community college chief executive officer.

CHAPTER 3: RESEARCH METHODS

Purpose of the Study

The purpose of this study was to determine the influence of organizational and governance structures on the frequency with which the chief executive officers (CEOs) of public community and technical colleges in the United States utilize certain management skills. The frequency with which public community college CEOs use certain management skills may be influenced by the organizational and governance structures within which they operate.

Many management skills are needed by community college CEOs throughout the United States to achieve institutional effectiveness, operational efficiencies, and the fulfillment of public policies. The primary questions to be addressed through this research ask whether the organizational structure of the institution and whether the structure by which it is governed influence the frequency with which certain management skills are utilized by community college CEOs.

Research Design

To address the research questions the design followed a non-experimental quantitative format through a comparative research approach. In an effort to determine whether organizational and governance structures influence the frequency of utilization of management skills by community college CEOs, the phenomenon was studied as it existed. The independent variables, organizational structure and governance structure, were not manipulable and respondents were not randomly assigned to groups (Johnson & Christensen, 2000).

Because the independent variables were categorical and the dependent variables were quantitative, the type of non-experimental research for this design is more specifically comparative research (McMillan & Wergin, 2002). The purpose of straightforward comparative research is to provide an accurate analysis of how two or more groups, in this case community college CEOs in different contexts, differ on a particular phenomenon – frequency of utilization of management skills (McMillan & Wergin). This form of research enabled the researcher to determine whether relationships existed between the categorical independent variables and the quantitative dependent variables.

Johnson and Christensen (2000) refer to this method as causal-comparative research. They caution, however, that due to the lack of manipulation of the independent variables and weaker controls for extraneous variables than one would expect to be present in experimental research, specific cause-and-effect relationships between the variables can be only tentative. Without manipulation of the independent variables and without random selection, inferences from the results of this research were limited to the respondent group (Beyean & Nicoll, 1997; Gravetter & Wallnau, 2000; Johnson & Christensen; Knoke, Bohrnstedt, & Mee, 2002; McMillan & Wergin, 2003).

Variables

Two categorical independent variables were used for this study: organizational structure and governance structure. Organizational structure was defined as departmentalization of the individual community college as described by Underwood and Hammons (1999) and was operationalized using a description of the five models found to be prevalent through their research. These five models are: (a) conventional – vice

presidents or deans reporting to the president; (b) vice president or executive dean model – vice presidents or deans report to executive vice president who reports to the president; (c) provost model – vice presidents for academic and other departmental directors report to a provost who reports to the president; (d) instructional deans model – two or more deans in charge of instruction in several disciplines reporting directly to the president; and (e) department head model – heads of various other units report to the president (Underwood & Hammons).

Governance structure referred to the decision-making authority of the institution or college which has the ability to appoint, direct, and remove the community college CEO (Lovell & Trough, 2002). This definition will be further operationalized by using the American Association of Community College's (AACC's) typology which classifies its institutional members by types: (a) multicollege districts, (b) colleges within multicollege districts, (c) multicampus colleges, (d) campuses of multicampus colleges, (e) university branch campuses offering the associate degree, and (f) single [stand-alone] institutions (AACC Membership Directory, 2005). These six types would connote different governance structures and different scalar (chains-of-command) structures for their respective CEOs. At the time this study was conducted, the American Association of Community Colleges (AACC) required all institutional members to meet two primary criteria. Each individual member must have been accredited by one of the regional accrediting bodies in the United States, and each member must have offered the associate degree (AACC Membership Directory, 2005).

The dependent variables, management skills, were measured as interval data through an author-developed and piloted questionnaire instrument. Using an anchored

rating scale, respondents were asked to indicate the frequency with which they use certain management skills on 25 item stems (Johnson & Christensen, 2000) with a numerical rating scale ranging from “1” for “very infrequently” to “6” for “very frequently.” The 25 item stems represented management skills for community college administrators as reduced from relevant literature and expounded upon in Chapter Two.

Population

The target population for this study consisted of the community college CEOs from public member institutions and campuses (N=1016) of the AACC. Each member institution and component campuses were identified in the 2005 membership directory. Entries were listed in alphabetical order by state location with the name and title of the current CEO as of the publication date (AACC Membership Directory, 2005). CEOs identified in the AACC Membership Directory (2005) carried titles such as president, interim president, chancellor, interim chancellor, superintendent/president, campus director, and CEO.

Based upon an N of 1016, a random sample size (n) of approximately 285 is suggested by Johnson and Christensen (2000) to achieve statistical values at the .05 confidence level. The researcher chose to use the population as the sampling frame for the study, less those randomly selected to participate in the pilot study, resulting in a revised population (N) of 986. This action was taken in an effort to increase the response rate of returned surveys. Larger sample sizes have the potential to reduce sampling error therefore positively affecting both internal and external validity of the research (Johnson & Christensen). The generalizability of the information from this research may only be inferred to the respondent community college CEOs.

Instrumentation

Data for this research were collected using a survey method employing an author-developed questionnaire. A questionnaire is the most common method of data collection in survey research, specifically when desiring to obtain a large amount of factual information from a relatively large number of respondents (Fogelman, 2002).

A questionnaire has distinct advantages in that it is usually considered to be an economical and efficient data collection method, data collected are generally easy to tabulate, and anonymity is easy to maintain (Patton, 1998). Specific disadvantages to using questionnaires are that they incur the potential for a low response rate, they are less personal than interviews, and they usually provide the researcher with only a “snapshot” (Patton, p. 3) of the phenomenon under investigation.

Two major considerations in the development of the questionnaire were to make sure the instrument achieved the primary research objectives and fulfilled the purpose of the study (Johnson & Christensen, 2000; Patton, 1998). The author-developed questionnaire contained four parts designed to achieve or support the research objectives. The questionnaire content was limited to one letter-size sheet of paper printed front and back to encourage respondent participation. Refer to Appendix A for a copy of the initial questionnaire used in the pilot study.

Part one of the instrument requested respondents to indicate, using an anchored six-point rating scale, the frequency with which they utilized certain management skills identified in 25 statements, or item stems (Johnson & Christensen, 2000; Patton, 1998). Patton (1998) cautions that no more than seven points can be used in a Likert-like scale without forcing the respondents into making “falsely fine distinctions” (p. 34).

The 25 item-stems depicting management skills were adapted from current literature. Using skill sets identified by the AACCC's Leadership Task Force (2003) as an anchor, the researcher engaged in a reduction of the management skills and competencies by grouping the same or similar skills identified in the literature (Brown et al., 2002; Hammons & Keller, 1990; Heffner, 1991; Macera, 1989; Porter, 2003; Robbins & Coulter, 1999; Townsend & Bassoppo-Moyo, 1997; Yukl, 2006). The major groupings from this reduction were combined into a list of critical management skills (see Chapter Two). This list of critical management skills was then reframed into statements representing management skill sets to be used as individual item-stems on the questionnaire.

The second part of the instrument provided the respondent with specific choices related to operational definitions of the study's independent variables, organizational and governance structure. The third part solicited specific demographic and other information that may be considered extraneous variables. The instrument allowed for an analysis to determine if differences existed in the relationship between the independent and dependent variables.

The fourth section of the instrument contained four open-ended questions. Patton (1998) suggests that open-ended questions are often beneficial to allow respondents an opportunity to elaborate on their responses, address issues not specifically addressed by the item-stems, or offer clarifications. The open-ended questions in this section were not directly utilized in this study derived to address the research questions; therefore, these questions were considered to be ancillary to the research study.

Data Collection

Public community college CEOs from the 2005 institutional membership of the AACC, less 30 individuals used in the pilot study, were incorporated into the sampling frame for this study (N=986). The public member institutions of the AACC were representative of the community colleges throughout the United States and the organizational and governance variations found extant in the literature. This representation supports the utilization of AACC public member institutions as a sampling frame for this study. The representation of this sampling frame to the population of interest being studied and a readily usable format of names and address constitute a purposive sample (Fogelman, 2002; Johnson & Christensen, 2000).

Taking into consideration the number of levels and variables contained in this study, a desire to maximize the number of returned surveys resulted in a decision to survey the entire 986 elements within the sampling frame. This nonrandom approach constituted a nonprobability sampling method limiting the generalizability of findings to the study's respondents (Johnson & Christensen, 2000; Beyea & Nicoll, 1997).

In survey approaches using random selection, sampling error may occur that would distort to some degree the representative nature of the sample to its corresponding population (Gravetter & Wallnau, 2000). Morgan and Harmon (1999) purport that it is problematic when response rates of the actual samples are considerably smaller than the selected samples resulting in a potentially unrepresentative actual sample. Fogelman (2002) emphasizes that steps must be taken to maximize response rates in survey research to minimize this phenomenon. A response rate less than 100% of the sample still allows for the possibility that respondents will not represent the sample and thus the target

population (Fogelman). The possibility that non-respondents to a random survey may in some way be “atypical” (Fogelman, 2002, p. 106) supports the use of random selection even though the assumption in a nonprobability method that the respondents are not typical cannot be made with certainty. However, the ability to draw inferences from the findings of a study with a high level of confidence is directly related to probability theory and random selection, even though “absolute certainty is never possible” (Knoke et al., 2002, p. 69).

Due to the nonprobability approach taken in this study, it cannot be stated that the respondents are representative of the larger population and therefore any inferences of the study’s findings to the larger population cannot be made. However, an analysis of the demographic data of the respondents may provide some indication of the representative nature of the survey respondents to the larger population (Morgan & Harmon, 1999). Any conclusions to be drawn from this representation must be left to the reader and not inferred by the researcher (Fogelman, 2002)

Assurance of anonymity is thought to increase the rate of return (Johnson & Christensen, 2000; Patton 1998). Fogelman (2002) urges researchers to stress confidentiality of the returned survey so as not to divulge the respondent, but that the researcher should not pledge anonymity. Fogelman further suggests that the researcher divulge to the respondent that the instrument is coded to determine who has or has not responded, but that the researcher should refrain from gimmicks or secret codes to identify who should receive follow-up letters. Patton simply suggests sending a follow-up letter to the entire sample whether or not they have returned the instrument. If so, thank them for their participation, and if not, stress the importance of doing so. For the

purpose of this study, both anonymity and confidentiality were maintained in the survey methods.

The CEOs contained in the sampling frame were sent a cover letter, self-addressed stamped envelop, and piloted questionnaire. Questionnaires were printed on high quality paper using a high quality printer. The first mailing of the survey to the population (N=986) was completed in April, 2006. A second mailing to the entire population was completed in May, 2006 in an effort to improve the response rate. Both the first and second mailings were accompanied with an IRB approved cover letter (see Appendix B) and a self-addressed stamped envelop. The survey instrument for the first mailing was submitted on white bond paper, and the second mailing on a buff colored bond paper. This approach allowed for the tracking of responses by separating the first and second mailing.

As each survey instrument was returned, it was assigned a control number in the order in which it was received. This control number was used to maintain accuracy of input into a data analysis software package and to minimize duplication errors. The Statistical Package for the Social Sciences (SPSS) 11.0 was used for statistical analysis and data presentation. The information from each respondent was entered into the data editor of SPSS using the control number for order of input. Each item-stem and data element from the questionnaire was entered in spreadsheet format with rows representing each respondent and columns representing variables and data elements (Field, 2000).

Data Analysis

Responses to the 25 item-stems on the questionnaire measuring frequency of utilization of management skills were coded and entered into SPSS data editor as interval data. Thorne and Giesen (2000) suggest that rating scales can cautiously be assumed to be interval-level measurement, but recommend common sense be used in making interpretations. Data from returned questionnaires for the governance and organizational structure and demographic information were entered as nominal data.

Multivariate analysis of variance (MANOVA) is a statistical method appropriate for use in situations where there are several independent variables (Field, 2000). When two categorical independent variables exist, the univariate of analysis of variance (ANOVA) is referred to as two-way ANOVA (Johnson & Christensen, 2000). The test that includes more than two categorical independent variables is referred to as a factorial design (Gravetter & Wallnau, 2000; Johnson & Christensen). MANOVA and ANOVA are used to determine if the group means are equal using the F-statistic which compares the amount of variance in the scores. These tests were used to compare the means of the various subgroups on the independent variable to determine if the frequency of utilization differs for each of the two independent variable groups – governance structure and organizational structure (Field).

The open-ended questions, although ancillary to this study, were analyzed through an informal qualitative analysis approach. Recurring categories or themes were identified through the assessment of words or phrases used by the respondents (Patton, 2002). Patton (2002) suggests that use of an inductive technique such as content analysis allows the researcher to interact with the data to come to an understanding of the

common themes or repetitive content, rather than deductively analyzing the content against some predetermined frame of reference. In addition to this emergent approach, Stemler (2001) offers that using *a priori* coding approach is also appropriate. However, the reduction of the responses to the open-ended questions was not purely a content analysis procedure in as much as this informal process did not contain mutually exclusive and exhaustive categories (Stemler, 2001).

Peräkylä (2005) suggests that qualitative researchers often do not follow a “predefined protocol in executing their analysis” (p. 870). Rather, they follow an informal approach of analysis which may be the best approach when such text analysis “is not at the core of the research but instead is in a subsidiary or complementary role” (Peräkylä, p. 870). The use of open-ended questions and analyzing the content provided the researcher with limited triangulation of the data (Patton, 2000) in an attempt to improve the validity of the results, although with regard to this study, qualitative analyses were ancillary to the major findings.

The responses to the four open-ended questions provided the researcher with qualitative data to gain additional understanding of the relationship between the independent variables and the dependent variables. These data were analyzed using a content analysis qualitative research approach (Stemler, 2001). The open-ended questions asked respondents which skills they believed to be most critical to the success of a community college CEO, what organizational or governance factors have had the most influence on the skill they used, what other factors they believed most influenced the frequency with which they utilized these skills, and for general comment.

The verbatim comments were transcribed from questionnaires into master lists for the questions in Part 4 which were further analyzed and grouped according to identifiable categories common among the research (Johnson & Christensen, 2000) relying on pre-existing and emergent categories. Content analysis was conducted on Question #1 using the 25 management skill item-stem statements from Part 1 of the instrument as pre-existing categories. Comments from Question #1 not readily matched to one of the management skill item-stem statements were examined for emergent categories. Questions #2, #3 and #4 were analyzed using emergent categories. Larger categories were further reviewed for the emergent content from within the larger grouping.

Pilot Test

In order for a survey instrument to be reliable in collecting the information necessary from which to draw conclusions and make inferences, it must be highly structured and appropriate to the purpose for which it is intended (Bush, 2002; Patton 1998). It is recommended that an instrument for which reliability and validity have not been established be submitted to a pilot test. While a panel of 10 people who are similar to the population of the research is considered sufficient to pilot test an instrument (Johnson & Christensen, 2000; Patton 1998), Patton suggests that 25 or more people be used to conduct an item analysis in order that the responses can be statistically analyzed.

A random sample of 30 people was chosen from the study population (N=1,016) using a random number generator: considered a systematic sampling technique (Johnson & Christensen, 2000). The CEOs included in the pilot test sample (n=30) were sent a copy of the author-developed survey instrument, an IRB approved cover letter, a self-addressed stamped envelope, asking for their participation in a pilot test. In addition to

survey responses on the 25 item-stems, written comments were requested to improve clarity, content, and format of the instrument.

In addition to the written input on the instrument, statistical tests were conducted on the items and analyzed. The 30 respondents chosen to participate in the pilot test were removed from the larger population to which the survey instrument was mailed.

Statistical analysis using the latest version of SPSS was performed on the pilot responses, in addition to a test for internal consistency using Cronbach's Alpha (Siegle, 2005). The finalized instrument was approved by the Marshall University Institutional Review Board, along with a cover letter and follow-up cover letter in compliance with ethical principles and guidelines for research involving human subjects. Refer to Appendix B.

Pilot Test Results

Fifteen pilot surveys ($n=15$) were returned from the sample ($N=30$) for a 50% rate of return. Tables 1 through Table 4 depict the frequency distribution for selected demographic information. Table 5 displays descriptive statistics for selected demographic information for the pilot test respondents.

Table 1
Pilot Test - Frequency Distribution by Sex

Sex	Frequency	Percent	Cumulative Percent
Male	7	46.7	46.7
Female	3	20.0	66.7
Not Reported	5	33.3	100.0
Total	15	100.0	

Table 2

Pilot Test - Frequency Distribution by Age

Age	Frequency	Percent	Cumulative Percent
26 - 35	1	6.7	6.7
36 - 45	0	0	6.7
46 - 55	4	26.7	33.4
56 - 65	7	46.7	79.1
66 and older	3	20.0	99.1
Not Reported	0	0	100.0
Total	15	100.0	

Table 3

Pilot Test - Frequency Distribution by Highest Degree Earned

Degree	Frequency	Percent	Cumulative Percent
Master's	0	0	0
Doctorate	15	100.0	100.0
Not Reported	0	0	0
Total	15	100.0	

Table 4

Pilot Test - Frequency Distribution by Years of Post-Secondary Experience

Years	Frequency	Percent	Cumulative Percent
Less than 5	1	6.7	6.7
6 - 10	2	13.3	20.0
11 - 15	0	0	20.0
16 - 20	0	0	20.0
Greater than 20	12	80.0	100.00
Not Reported	0	0	100.0
Total	15	100.0	

Table 5

Pilot Test - Descriptive Statistics for Selected Demographic Information

	N	Minimum	Maximum	Mean	SD
Institutional Enrollment	423	1700	163000	8030.04	11753.85
Years in present CEO position	460	0	30	6.45	5.783
Total years in all post-secondary CEO positions	455	0	40	10.23	8.522
Years of professional executive experience outside of higher education	418	0	35	3.94	6.624

The pilot test responses were subjected to statistical analyses using multivariate analysis of variance (MANOVA). This statistical test was determined to be appropriate for the research design consisting of multiple dependent variables and multiple independent variables, or factors, with two or more levels. Table 6 depicts the

frequencies of responses for each factor, organizational structures, governance structure, and reporting (decision-making authority) as reported by the pilot test respondents.

Table 6

Pilot Test - Multivariate Analysis of Variance Frequency of Between-Subject Factors
by Level

Factor	Level	N
Organizational Structure	Conventional Model	13
	Vice Pres. or Executive Dean Model	1
	Provost Model	0
	Instructional Dean Model	1
	Department Head Model	0
	Not Reported	0
	Total	15
Governance Structure	Single (Stand-alone)	7
	Multi-college district	0
	College within multi-college district	0
	Multi-campus college	7
	Campus of multi-campus college	1
	University branch campus	0
	Not reported	0
Total	15	
Decision-Making Authority	Governing body	10
	Coordinating entity	0
	Multi-college district CEO	2
	Multi-campus CEO	0
	Other	2
	Not reported	0
Total	15	

Multivariate analysis of variance test is preceded by a test for homoscedasticity, or homogeneity of variance and covariance, for each group in the study. In SPSS, this test is often performed using Box's Test for Equality of Covariance Matrices. If the assumption of homogeneity is violated, the multivariate tests are not considered as reliable which often results in a higher probability of a resultant Type I error (Field, 2000). In the pilot test analysis, Box's Test for Equality of Covariance Matrices was not performed due to an insufficient number of cells with values.

Using Wilks's lambda (Λ), significance was set with $p < .05$, which would indicate an effect between the independent factors on the dependent measures. No significant differences were found for the independent factors on the dependent measures. For the organizational structure group, Wilks's $\Lambda = .00$, $F(24, 2) = 4.85$, $p = .185$; for the governance structure group, Wilks's $\Lambda = .00$, $F(24, 2) = 13.25$, $p = .072$; for the reporting (decision-making) group, Wilks's $\Lambda = .003$, $F(33, 3.6) = 0.66$, $p = .779$. Table 7 provides a description of the multivariate tests by group.

Table 7

Pilot Test - Multivariate Analysis of Variance Tests

Effect	Wilks's Λ	F	Hypothesis df	Error df	Sig.
Organizational Structure (ORG)	.000	4.850	24.000	2.000	.185
Governance Structure (GOV)	.000	13.247	24.000	2.000	.072
Reporting (REPORT)	.003	0.656	33.000	3.650	.779

Follow-up analysis was conducted using a series of univariate ANOVA tests for all levels of each independent variable and analyzing each of the dependent variables

using an alpha = .05. This analysis produced only one significant finding, or main effect. This finding was for the independent factor “governance structures,” for the dependent variable “performing institutional development including fundraising and grant procurement,” $F(2,12) = 4.06, p = .05$.

A coefficient of reliability, Chronbach’s alpha, was conducted to determine if the dependent measures, as delineated in the 25 management skill item-stems, appropriately measure the frequency of skill utilization. Using SPSS Version 11.0 to perform the reliability analysis, the resultant score for the 25 item-stems was $\alpha = .8820$.

With the pilot test resulting in a small set of responses for the statistical tests chosen, it was determined a larger return in the final study may lend itself to more robust analysis. Input from the qualitative responses was used to make final adjustments to the test instrument.

Final Questionnaire

Two areas of the piloted questionnaire seemed to pose some problem for respondents. Part 2, Item C asked respondents to identify the decision-making authority which best represented the one to whom the respondent directly reported. The choices were identified as “governing board,” “coordinating entity,” “multi-college district CEO,” “multi-campus college CEO,” and “other.” Ten respondents identified “governing board” as the decision-making authority to which they reported. One respondent left this item blank, and another identified “multi-college district CEO” as their choice. Two respondents identified “other” as their choice and provided brief written descriptions of “state commissioner” and “system president.” As a result, choices for decision-making authority were changed on the final survey instrument to conform

more directly to CEO titles found in the 2005 Membership Directory of the AACC. In addition to “governing board” and “other,” “president,” and “chancellor,” was substituted for the more descriptive terms in the piloted survey.

In Part 4, Question 2 asked respondents “What contextual factors do you believe have the most influence on the skills you utilize most frequently”? Of the 15 respondents, seven provided written responses to this question, four left the question blank, and the remaining four provided comments suggesting the question was confusing or they did not understand what was being asked. The word “contextual” was replaced by the phrase “organizational or governance” in the final survey instrument to clarify the question. Changes in the survey instrument were confirmed through the IRB to have no impact on the research design and required no further review. Refer to Appendix C for a copy of the final questionnaire.

Summary

The research design and methods described were used to determine if the frequency of management skill utilization differs according to the specific organizational structure and/or governance structure within which the community college CEO operates. Using returned responses from a questionnaire mailed to the target population (N=986) from the institutional membership of the AACC, with a sufficient return rate (n=468), and appropriate statistical analysis, the determination of whether statistically significant differences exist between frequency of skill utilization for community college CEOs and organizational context can be achieved.

CHAPTER 4: PRESENTATION AND ANALYSIS OF THE DATA

The purpose of this study was to analyze the effects of organizational and governance factors on the frequency with which chief executive officers (CEOs) of American public community colleges utilized certain management skills. The independent variables, organizational and governance structures, were based on categorizations found to be prevalent in the literature.

The levels of organizational structure included five models: conventional model; vice president or executive dean model; provost model; instructional dean model; and, department head model. Governance structures consisted of six levels: single (stand-alone) institution; multi-college district; college within multi-college district; multicampus college; campus of multicampus college; and, university branch campus. A second factor of the governance model of the independent variable asked respondents to identify the decision-making authority to which the respondent directly reported. The levels of this factor included governing board, chancellor, president, and other.

Data Gathering

The dependent variable, the frequency with which public community college CEOs utilize certain management skills, was analyzed by collecting data through use of the Community College Critical Management Skills Frequency of Utilization Questionnaire, an author-developed, piloted questionnaire. In Part 1 of the questionnaire, respondents were asked to identify frequency of utilization of management skills on an anchored six-point rated scale ranging from “1” for “very infrequently” to “6” for “very frequently” using 25 item-stem questions which represent management skills identified from the literature and research regarding public community college chief executive

officers (CEOs). Responses to the independent variables and demographic data were collected using Part 2 and Part 3, respectively, of the questionnaire. Part 4 offered respondents the opportunity to provide answers to four open-ended questions. A description of the responses to the open-ended questions is discussed later in this chapter.

Returned questionnaires ($n = 486$) were numbered in the order in which they were received. The data were gathered, numbered and analyzed using Statistical Package for the Social Sciences (SPSS) 11.0. Both descriptive and inferential statistical analyses were conducted using the SPSS software program.

Descriptive Data

The sampling frame used for this study consisted of 1,016 chief executive officers (CEOs) of member public community colleges as identified in the 2005 membership directory of the American Association of Community Colleges. Thirty individuals from this sampling frame, who were selected at random, were asked to participate in the pilot test of the author-developed instrument and thus were removed from consideration for participation in the final survey. The final sampling frame ($N=986$) represents public community colleges in each of the 50 states.

Based upon an N of 986, a random sample size (n) of approximately 278 is suggested by Johnson and Christensen (2000) to achieve statistical values at the .05 confidence level. A need existed, however, to maximize return given the number of factors and levels to be considered in the multivariate analysis of variance.

A nonprobability sampling technique was employed by sending the questionnaire to all 986 elements within the sampling frame. This strategy was taken to increase the response rate which resulted in the sampling frame becoming a purposive sample being

derived from the public institution members of the American Association of Community Colleges (AACC). This nonprobability approach limits the generalizability of findings to the response group.

The first mailing of the survey to the population ($N = 986$) was completed in April, 2006, and resulted in a return of 251 responses. A second mailing was accomplished in May, 2006, and resulted in an additional 217 responses. The sum of both mailings ($n = 468$) resulted in a 47.5% return of the sampling frame.

The survey instrument was printed on a different color of paper to distinguish between the first and second mailings. The first mailing was printed on a white bond, with the second mailing being printed on a buff-colored bond.

The range of addressees for the sampling frame selected for this study represented each of the 50 states consisting of a single address each in the states of Rhode Island and South Dakota, to 124 total addresses in California. Analyses of the first three numerals of the postal zip codes identified from the postal cancellations, which is indicative of the state from which the survey was mailed, produced a general understanding of the geographical distribution of the returned surveys.

Out of the 468 responses received, 32 did not have identifying postal codes of the return address. Of the remaining 436 responses with identifying postal codes, 47 states were represented. Responses were not received from Delaware, South Dakota, or Vermont. Responses from the 47 states ranged from single responses in nine states to 43 responses from California. Responses from 47 of the 50 states, including Alaska and Hawaii, would indicate a broad geographic representation of respondents. In the interest of maintaining anonymity, no other attempts were made to analyze the location of

responses beyond identification of the states from which the responses were mailed. All survey instruments were maintained in a confidential manner.

Demographic Analysis

Self-reported nominal, or categorical, data collected through the survey instrument included the independent variables, Items 1 through 3 of Part 2 of the survey instrument, and certain demographic information in Item 1 of Part 3, with other demographic items' being open-ended. An analysis of the demographic information provides a general description of the relevant characteristics of the sample ($N = 468$). Part 3, Demographic Information, of the survey instrument asked respondents to answer questions with responses that were bracketed or categorized for analysis. These nominal data included (a) sex, (b) age, (c) highest degree earned, and (d) years of post-secondary experience.

Analyzing the data collected from the returned surveys as identified in Part 3 of the survey instrument, 67.9% of the respondents ($n = 318$) were male and 29.1% were female ($n = 139$), with 3% of the respondents ($n = 14$) not indicating a response for this question. Table 8 reflects the frequency distribution of the sample by sex.

Table 8
Frequency Distribution by Sex

Sex	Frequency	Percent	Cumulative Percent
Male	318	67.9	67.9
Female	136	29.1	97.0
Not Reported	14	3.0	100.0
Total	468	100.0	

Respondents were asked to identify their ages within predetermined categories. Five categories with a ten-year range beginning with age 26 - 35 and ending with age 66 and older were provided. Age of respondents reflected a similar pattern to the age distribution of CEOs and other senior administrators described in the literature (Katsinas & Kemper, 2005; Shults, 2001; Vaughan & Weisman, 2002). Nearly 77% of the respondents (n = 360) to the survey instrument self-reported that they were within the 56 years old and older age bracket, with 10% (n = 47) having indicated they were 66 years of age or older. Table 9 provides a frequency distribution of respondents' ages. Because this information was collected as nominal data, the mean, standard deviation and range were not calculated.

Table 9

Frequency Distribution by Age

Age	Frequency	Percent	Cumulative Percent
26 - 35	2	.4	.4
36 - 45	10	2.1	2.5
46 - 55	95	20.3	22.8
56 - 65	313	66.9	89.7
66 and older	47	10.0	99.7
Not Reported	1	.2	100.0
Total	468	100.0	

The respondents were also asked to disclose their highest degrees earned in an open-ended question. The information was coded as a doctorate for appropriate degree

abbreviations such as Ph.D., Ed.D, or DBA, or coded as a master’s degree for abbreviations such as M.S., M.A. or M.Ed. The majority of the total respondents ($n = 412$), 88%, disclosed a doctorate as the highest degree earned. Those who disclosed the master’s degree as the highest degree earned made up only 10.7% of the respondents ($n = 50$). Six respondents, 1.3%, did not disclose this information. Table 10 provides a summary of the frequency distribution of the highest degree earned.

Table 10
Frequency Distribution by Highest Degree Earned

Degree	Frequency	Percent	Cumulative Percent
Master’s	50	10.7	10.7
Doctorate	412	88.0	98.7
Not Reported	6	1.3	100.0
Total	468	100.0	

Respondents were asked to disclose the number of years of total experience in post-secondary education by marking one of five predetermined categories. The categories began with an option to choose fewer than five years of experience, and ascended in increments of five years, culminating with a category reflecting greater than 20 years of experience. Over 87% of the respondents ($n = 410$) marked the two highest categories beginning with 16 – 20 years of total experience in post-secondary education. Seventy-seven percent (77%) of the respondents indicated total years of post-secondary experience greater than 20 years ($n = 361$). This level of experience parallels the 66.9% of respondents whose age at the time of the survey was 56 years of age or older as

depicted in Table 9. Table 11 provides a summary of the frequency distribution of the years of post-secondary experience.

Table 11
Frequency Distribution by Years of Post-Secondary Experience

Years	Frequency	Percent	Cumulative Percent
Less than 5	12	2.4	2.6
6 - 10	21	4.5	7.1
11 - 15	14	3.0	10.1
16 - 20	49	10.5	20.6
Greater than 20	361	77.1	97.7
Not Reported	12	2.4	100.0
Total	468	100.0	

Other demographic information in Part 3 of the survey instrument requested that respondents complete several open-ended questions which may be considered as ratio scales. These included (a) total institutional enrollment, (b) years in present CEO position, (c) total years in all post-secondary CEO positions, and (d) years of professional executive experience outside of higher education. Table 12 summarizes the demographic data that were collected as ratio scales.

The institutional enrollment as reported by respondents ($n = 423$) ranged from 500 students to 163,000 students, with a mean of 8,030 students. Several respondents listed both headcount and full-time equivalent enrollment. Only headcount was used for this analysis and, in the absence of any delineation, the number reported was assumed to

be a headcount figure. Also, it is important to point out that with a wide variation in the types of institutions surveyed in this study, as defined by the governance factor with levels from single (stand-alone) to multicampus systems, institutional enrollment is not to be construed as being meaningful on a per institution basis, but meaningful only in relation to the variation in the student body for which each CEO may be responsible.

The number of years in the present CEO position as reported by respondents ($n = 460$) ranged from zero, or less than a year, to a maximum reported number of 30 years. The average length of time the respondents were in their current CEO post was 6.45 years. Some survey respondents reported years in present CEO position in months or fractions of a year. Five or fewer months were reported as zero years, and six or more months were reported as one year. This rounding resulted in only five surveys' having zero years as the length of time in the present position.

Respondents were also asked to provide the total number of years in all post-secondary CEO positions. Respondents answering this question in months were rounded using the same method as described in the previous paragraph. Responses reported as zero were interpreted to mean the respondent had no CEO experience prior to her/his current position. Of those answering this question ($n = 455$), the range of total years in all post-secondary CEO positions ranged from a minimum of zero to a maximum reported number of 40 years. The average number of years respondents had spent in all CEO positions in post-secondary education was a little more than 10 years.

The final question asked of respondents related to the number of years of professional executive experience in positions outside of higher education. Again, responses provided by any respondent answering this question in months were rounded

using the same process as previously described. Responses reported as zero were interpreted to mean the CEO had no prior experience outside of higher education. Respondents ($n = 418$) reported a minimum of zero to a maximum of 35 years of experience outside of higher education. The average number of years of executive experience outside of higher education, as reported by respondents, was nearly four years. Table 12 provides a description of the data collected for selected demographic information.

Table 12
Descriptive Statistics for Selected Demographic Information

	N	Minimum	Maximum	Mean	SD
Institutional Enrollment	423	500	163000	8030.04	11753.85
Years in present CEO position	460	0	30	6.45	5.783
Total years in all post-secondary CEO positions	455	0	40	10.23	8.522
Years of professional executive experience outside of higher education	418	0	35	3.94	6.624

Statistical Analysis of Survey Data

The data collection and analysis to follow were focused on achieving an answer to the following research questions posed in this study:

1. Does the organizational structure of community and technical colleges influence the frequency with which certain management skills are utilized by their CEOs?

2. Does the governance structure of community and technical colleges influence the frequency with which certain management skills are utilized by their CEOs?

Although the respondent group used to conduct the analysis was solicited through a nonprobability sampling approach of the sampling frame, a determination to perform statistical analyses as herein described was based on the size of the respondent group, and on the premise that generalizability beyond the respondent group would not be inferred (Fogelman, 2002).

To analyze the data as collected, it was determined that a multivariate analysis of variance (MANOVA) would be the most appropriate test. This test is used in situations in which there are multiple dependent variables in addition to multiple independent variables, or factors, with two or more levels. The MANOVA is an appropriate test to analyze the variance among groups used to determine the effect of the independent variable on the dependent variable, or the main effect, and the interaction effects of two or more independent variables on the dependent variables (Field, 2000; Gravetter & Wallnau, 2000). This analysis is based on the same assumptions of the univariate analysis of variance tests. If a variance is noted on the mean of the variances in the frequencies as measured by the dependent variables of each group, then an answer for the research questions may be formulated based upon this main effect.

The dependent variables, the frequency with which community college CEOs utilize certain management skills, were measured using twenty-five item stem questions with respondents identifying the frequency of utilization of management skills on an interval, anchored six-point rated scale ranging from “1” for very infrequently to “6” for very frequently. Tables 13, 14, and 15 describe the frequencies of responses for each

factor, organizational structure, governance structure, and reporting (decision making authority), respectively.

Table 13

Frequency Distribution by Organizational Structure

Level	Frequency	Percent of N
Conventional Model	396	84.6
Vice President or Executive Dean Model	33	7.1
Provost Model	17	3.6
Instructional Dean Model	12	2.6
Department Head Model	5	1.1
Not Reported	5	1.1
Total	468	100.0

Table 14

Frequency Distribution by Governance Structure

Level	Frequency	Percent of N
Single (stand alone) Institution	197	42.1
Multi-college District	42	9.0
College Within Multi-college District	38	8.1
Multi-campus College	161	34.4
Campus of Multi-campus College	9	1.9
University Branch Campus	16	3.4
Not Reported	5	1.1
Total	468	100.0

Table 15

Frequency Distribution by Reporting (Decision Making Authority)

Level	Frequency	Percent of N
Governing Board	272	58.1
Chancellor	133	28.4
President	34	7.3
Other	12	2.6
Not Reported	17	3.6
Total	468	100.0

The initial analysis of the dataset in this study produced problems of homogeneity of variances. In order for the MANOVA to be an effective test, multiple assumptions must be met. These assumptions, which are similar for parametric tests, include the following: (1) observations should be statistically independent - meaning a response from one respondent on a particular variable is independent of or has no effect on responses from all other respondents; (2) participants are randomly sampled and measured on an interval level; (3) multivariate normality - dependent variables are assumed to be normally distributed within each group; and (4) homogeneity of covariance matrices - variances in each group are near equal and the correlation between any two dependent variables is the same for all groups (Field, 2000; Gravetter & Wallnau, 2000).

In an effort to continue statistical analysis of the data, a determination was made to collapse levels of the independent variables to reduce the disparity of n in each level. The data were collapsed for the independent variables governance structure and decision-making authority. The independent variable organizational structure was not collapsed.

Due to the frequency distribution of this variable's being skewed disproportionately toward the level "conventional model," it was perceived that collapsing of this variable would not have any substantial change in the analysis. Levels for the independent variable governance structure were collapsed into two levels: single (stand-alone) and multi-campus environments. The levels for the independent variable decision-making authority were collapsed to two levels: reporting to a governing body and reporting to an individual.

Once data were collapsed, three iterations of data analysis were performed to ascertain if any main effects of the factors and their respective levels on the dependent variables could be determined. A multivariate analysis of variance (MANOVA) test was performed using SPSS Version 11.0. It should be noted that this software program removes from the calculations any item in the dataset that has a blank cell. This will result in a different *n*'s being reflected in the various analyses to follow. To preserve economy in the narrative, the SPSS output of descriptive statistics for the frequency, mean (M), and standard deviation (SD), for each dependent variable is included in Appendix D.

Statistical Analysis - First Iteration

The first iteration of analyses included a MANOVA on the full dataset and variables as collected and collapsed, followed by univariate analyses on each dependent variable. The MANOVA test followed two primary steps. First, testing for homoscedasticity, or homogeneity of variance and covariance for each group, was accomplished using Box's Test for Equality of Covariance Matrices. If the assumption of homogeneity is violated, the multivariate tests are not as reliable resulting in a higher

probability of a resultant Type I error (Field, 2000). The second step was to run the multivariate tests. Table 16 provides a frequency of the Between-Subject factors by level included in the MANOVA.

Table 16

Multivariate Analysis of Variance Frequency of Between-Subject Factors by Level

Factor	Level	N
Organizational Structure	Conventional Model	368
	Vice Pres. or Executive Dean Model	32
	Provost Model	16
	Instructional Dean Model	11
	Department Head Model	5
	Not Reported	5
	Total	437
Governance Structure	Single (Stand-alone)	193
	Multicampus environment	241
	Not reported	3
	Total	437
Decision-Making Authority	Reports to Governing body	254
	Reports to Individual	168
	Not reported	15
	Total	437

With an alpha level of .05, Box's Test of Equality of Covariance Matrices was significant, $F(975, 51804) = 1.23, p < .05$. This significance indicates the assumption of homogeneity was violated. This violation may indicate the variance/covariance matrices are heterogenous, which may be due to the unequal n among the independent variables, or it may indicate each group consists of different populations.

The multivariate test calculates four test statistics. Wilks's lambda (Λ) is the most common test when there are more than two groups formed by independent variables (Field, 2000). For the purposes of this study, the Wilks's Λ was the test statistic for the analysis. Wilks's Λ is significant with $p < .05$, indicating an effect.

No significant differences were found for the independent factors on the dependent measures: For the organizational structure group, Wilks's $\Lambda = .70$, $F(125, 1914) = 1.15$, $p = .13$; for the governance structure group, Wilks's $\Lambda = .90$, $F(50, 776) = .84$, $p = .78$; for the reporting group, Wilks's $\Lambda = .89$, $F(50, 776) = .93$, $p = .608$. This non-significance would indicate, based upon the test statistic, that there are no between-group differences in variance, thus no main effects. Evidence of between-group differences would indicate the independent variables had an effect on the dependent variables. With a finding of non-significance, no determination of an effect can be made. Table 17 provides a description of the multivariate tests by group.

Table 17

Multivariate Analysis of Variance Tests

Effect	Wilks's Λ	F	Hypothesis df	Error df	Sig.
Organizational Structure (ORG)	.701	1.147	125	1914	.134
Governance Structure (GOV)	.900	.837	50	776	.782
Reporting (REPORT)	.890	.932	50	776	.608
GOV x ORG	.801	.887	100	1542	.777
ORG x REPORT	.692	1.188	125	1914	.082
GOV x REPORT	.832	.982	75	1161	.522
ORG x GOV x REPORT	.931	1.148	25	388	.286

Follow-up analysis was conducted using a series of univariate ANOVA tests for all levels of each independent variable and analyzing each of the dependent variables using an alpha = 0.05. The purpose of this series of tests using the univariate ANOVA is to determine any main effect of the independent variables on each dependent variable. The first step in this analysis was to conduct a Levene's Test of Equality of Error Variances. This test is a measure of the error variances of the groups testing whether the group variances are different across each group for each dependent variable using an alpha of 0.05.

If Levene's Test of Equality of Error Variances is significant, $p < .05$, for the dependent variables, this would indicate that the error variances of the groups are significantly different, violating one of the primary assumptions of ANOVA. This significance may suggest each group consists of more than one population. If the Levene's Test of Equality of Error Variances is non-significant, $p > .05$, with the assumption of homogeneity having been met, then the reliability of the univariate test may be considered robust (Field, 2000).

As depicted in Table 18, 9 of the 25 dependent variables indicate significance, thus not meeting the assumption of homogeneity and violating one of the primary assumptions upon which analysis of variance is predicated. The nine variables are highlighted for ease of reference. Sixteen variables are not significant, but with the assumption of homogeneity having been violated as indicated by Box's Test of Covariance Matrices, the Levene's test has less reliability.

As depicted in Table 19, for the univariate ANOVA, only two of the dependent variables showed any significant main effect for organizational structures. The first,

“assessing cross-cultural differences and promoting diversity,” with $F(5, 412) = 2.34, p < .05$, and “performing institutional development including fundraising and grant procurement,” with $F(5, 412) = 3.33, p < .05$. The Levene’s Test of Equality of Error Variance for the first dependent measure, “assessing cross-cultural differences and promoting diversity,” was significant ($p = .040$), thus the reliability of the univariate is questionable and any difference that may exist may be due to chance or sampling error. The Levene’s Test of Equality of Error Variance for the dependent measure “performing institutional development including fundraising and grant procurement” was not significant, therefore the difference that exists for this dependent variable may be due to the main effect of the organizational structure factor.

There were no main effects for the independent variable “governance structures,” although three dependent measures indicated a level of significance for reporting (decision-making). These include: “Assuming leadership role in curriculum development, student learning and assessment,” $F(2, 412) = 3.26, p < .05$; “participating in personnel selection processes,” $F(2, 412) = 4.84, p < .05$; and, “managing operational and instructional technology,” $F(2, 412) = 3.69, p < .05$. Refer to Tables 20 and 21.

Additional analyses of the interactions between the factors of the ANOVA were conducted; however, the interactive effects between the independent variables do not address specifically the research questions of this study. These tables are in Appendix E.

Table 18

Levene's Test of Equality of Error Variance

	F	df1	df2	Sig.
Defining, implementing, and promoting the college's mission	1.773	24	412	.014
Serving as advocate with members of the community and elected officials at all levels	1.512	24	412	.059
Managing operations including facilities planning, design, and/or maintenance	1.152	24	412	.283
Planning, controlling, and/or making decisions regarding budget and finance	1.800	24	412	.012
Researching, developing, and implementing short and long range institutional plans	1.462	24	412	.075
Understanding legal issues and dealing with legal concerns	1.153	24	412	.282
Identifying institutional problems and developing creative solutions	1.256	24	412	.190
Gathering, analyzing, and interpreting information for purposes of making informed decisions	1.439	24	412	.084
Assessing cross-cultural differences and promoting diversity	1.586	24	412	.040
Designing motivating jobs, clarifying lines of authority, and supervision of direct reports	1.502	24	412	.062
Assuming leadership role in curriculum development, student learning and assessment	1.221	24	412	.218
Motivating and inspiring the institutional management team	1.674	24	412	.025
Participating in personnel selection processes	1.335	24	412	.135
Performing personnel appraisals and implementing professional development activities	1.378	24	412	.111
Managing operational and instructional technology	1.435	24	412	.086
Developing partnerships and participating in strategies for community and economic development	.774	24	412	.770
Mediating, negotiating, and resolving institutional conflict	1.123	24	412	.314
Engaging in active delegation, balancing empowerment with appropriate feedback	1.880	24	412	.008
Performing public relations activities including public speaking engagements	1.676	24	412	.025
Pursuing personal growth, development, and maintaining peer network	1.454	24	412	.078
Modeling interpersonal skills such as effective listening, coaching, and mentoring	1.720	24	412	.019
Fostering collaborative decision making and team building	1.236	24	412	.206
Performing institutional development including fundraising and grant procurement	1.486	24	412	.067
Fostering board relations and actively participating in institutional governance	3.274	24	412	.000
Managing institutional and personal time	2.223	24	412	.001

Table 19

Univariate ANOVA – Tests of Between Subject Effects – Organizational Structures

	Type III SS	df	MS	F	Sig.
Defining, implementing, and promoting the college's mission	8.090	5	1.618	1.451	.205
Serving as advocate with members of the community and elected officials at all levels	4.245	5	.849	9.30	.461
Managing operations including facilities planning, design, and/or maintenance	4.928	5	.986	.752	.585
Planning, controlling, and/or making decisions regarding budget and finance	1.403	5	.281	.312	.906
Researching, developing, and implementing short and long range institutional plans	1.042	5	.208	.226	.951
Understanding legal issues and dealing with legal concerns	4.435	5	.887	.680	.639
Identifying institutional problems and developing creative solutions	1.032	5	2.06	.228	.950
Gathering, analyzing, and interpreting information for purposes of making informed decisions	4.046	5	.809	.839	.523
Assessing cross-cultural differences and promoting diversity	14.421	5	2.884	2.342	.041
Designing motivating jobs, clarifying lines of authority, and supervision of direct reports	5.007	5	1.001	.811	.543
Assuming leadership role in curriculum development, student learning and assessment	2.318	5	.464	.416	.838
Motivating and inspiring the institutional management team	5.086	5	1.017	1.189	.314
Participating in personnel selection processes	10.016	5	2.003	1.426	.214
Performing personnel appraisals and implementing professional development activities	2.271	5	.454	.437	.823
Managing operational and instructional technology	4.056	5	.811	.730	.601
Developing partnerships and participating in strategies for community and economic development	2.856	5	.571	.574	.720
Mediating, negotiating, and resolving institutional conflict	6.404	5	1.281	.865	.504
Engaging in active delegation, balancing empowerment with appropriate feedback	4.805	5	.961	.986	.426
Performing public relations activities including public speaking engagements	5.990	5	1.198	1.373	.234
Pursuing personal growth, development, and maintaining peer network	9.935	5	1.987	1.642	.148
Modeling interpersonal skills such as effective listening, coaching, and mentoring	5.733	5	1.147	.994	.421
Fostering collaborative decision making and team building	1.129	5	.226	.280	.924
Performing institutional development including fundraising and grant procurement	17.201	5	3.440	3.330	.006
Fostering board relations and actively participating in institutional governance	12.935	5	2.587	1.998	.078
Managing institutional and personal time	5.121	5	1.024	.706	.619

Table 20

Univariate ANOVA – Tests of Between Subject Effects – Governance Structures

	Type III SS	df	MS	F	Sig.
Defining, implementing, and promoting the college's mission	.939	2	.470	.421	.657
Serving as advocate with members of the community and elected officials at all levels	1.609	2	.805	.882	.415
Managing operations including facilities planning, design, and/or maintenance	6.832	2	3.416	2.605	.075
Planning, controlling, and/or making decisions regarding budget and finance	1.246	2	.623	.692	.501
Researching, developing, and implementing short and long range institutional plans	.391	2	.195	.212	.809
Understanding legal issues and dealing with legal concerns	1.612	2	.806	.618	.540
Identifying institutional problems and developing creative solutions	.527	2	.263	.290	.748
Gathering, analyzing, and interpreting information for purposes of making informed decisions	5.334E-02	2	2.667E-02	.028	.973
Assessing cross-cultural differences and promoting diversity	5.162	2	2.581	2.095	.124
Designing motivating jobs, clarifying lines of authority, and supervision of direct reports	.331	2	.166	.134	.875
Assuming leadership role in curriculum development, student learning and assessment	.325	2	.162	.146	.864
Motivating and inspiring the institutional management team	.341	2	.170	.199	.819
Participating in personnel selection processes	.205	2	.103	.073	.930
Performing personnel appraisals and implementing professional development activities	7.661E-02	2	3.831E-02	.307	.964
Managing operational and instructional technology	7.507E-02	2	375E-02	.304	.967
Developing partnerships and participating in strategies for community and economic development	3.252	2	1.626	1.634	.196
Mediating, negotiating, and resolving institutional conflict	1.597	2	.799	.540	.583
Engaging in active delegation, balancing empowerment with appropriate feedback	.286	2	.143	.147	.864
Performing public relations activities including public speaking engagements	.896	2	.448	.513	.599
Pursuing personal growth, development, and maintaining peer network	1.854	2	.927	.765	.466
Modeling interpersonal skills such as effective listening, coaching, and mentoring	1.506	2	.753	.653	.521
Fostering collaborative decision making and team building	.207	2	.104	.128	.879
Performing institutional development including fundraising and grant procurement	.325	2	.162	.157	.855
Fostering board relations and actively participating in institutional governance	4.969	2	2.485	1.919	.148
Managing institutional and personal time	.459	2	.230	.158	.854

Table 21

Univariate ANOVA – Tests of Between Subject Effects
Reporting (Decision-making)

	Type III SS	df	MS	F	Sig.
Defining, implementing, and promoting the college's mission	.628	2	.314	2.81	.755
Serving as advocate with members of the community and elected officials at all levels	3.152	2	1.576	1.726	.179
Managing operations including facilities planning, design, and/or maintenance	.484	2	.242	.185	.832
Planning, controlling, and/or making decisions regarding budget and finance	.823	2	.412	.457	.633
Researching, developing, and implementing short and long range institutional plans	1.104	2	.552	.559	.550
Understanding legal issues and dealing with legal concerns	1.469	2	.734	.563	.570
Identifying institutional problems and developing creative solutions	4.145	2	2.072	2.286	.103
Gathering, analyzing, and interpreting information for purposes of making informed decisions	3.491	2	1.746	1.809	.165
Assessing cross-cultural differences and promoting diversity	2.728	2	1.364	1.107	.331
Designing motivating jobs, clarifying lines of authority, and supervision of direct reports	6.745	2	3.373	2.730	.066
Assuming leadership role in curriculum development, student learning and assessment	7.264	2	3.632	3.260	.039
Motivating and inspiring the institutional management team	.576	2	.288	.336	.715
Participating in personnel selection processes	13.602	2	6.801	4.842	.008
Performing personnel appraisals and implementing professional development activities	5.256	2	2.628	2.530	.081
Managing operational and instructional technology	8.208	2	4.104	3.692	.026
Developing partnerships and participating in strategies for community and economic development	.913	2	.456	.459	.632
Mediating, negotiating, and resolving institutional conflict	4.050	2	2.025	1.368	.256
Engaging in active delegation, balancing empowerment with appropriate feedback	.148	2	7.424E-02	.076	.927
Performing public relations activities including public speaking engagements	.815	2	.408	.467	.627
Pursuing personal growth, development, and maintaining peer network	.131	2	6.536E-02	.054	.947
Modeling interpersonal skills such as effective listening, coaching, and mentoring	2.544	2	1.272	1.103	.333
Fostering collaborative decision making and team building	1.082	2	.541	.671	.512
Performing institutional development including fundraising and grant procurement	.269	2	.135	.130	.878
Fostering board relations and actively participating in institutional governance	5.307	2	2.653	2.049	.130
Managing institutional and personal time	2.670E-02	2	1.335E-02	.009	.991

Statistical Analysis – Second Iteration

Due to the homogeneity-of-variance problems with the MANOVA, a second attempt to analyze the data was undertaken by collapsing the dependent variables into six categories. The American Association of Community College Competencies for Community College Leaders (American Association of Community Colleges, n.d.), were used as a categorization of the dependent variables.

The six categories into which each independent variable was collapsed were organizational strategy, resource management, collaboration, communication, professionalism, and community college advocacy. Raw scores for each dependent measure were combined for this series of analyses. Table 22 identifies each category and the item stems most appropriately fitted to each category.

Cronbach's alpha, a coefficient of reliability, was used to determine if the item-stems, as collapsed into the six categories, appropriately measure the construct. This analysis resulted in mixed outcomes. The α for "organizational strategy," with four dependent measures collapsed, was .59, which is below the accepted value of .80 used in most social science research. The α for "resource management," with 11 dependent measures, was .80. The "collaboration" category, with four dependent measures collapsed, has a α of .53, below the accepted threshold of .80. "Communication," with three collapsed dependent measures, received a reliability coefficient of .70, and "professionalism," with two collapsed dependent measures had a $\alpha = .51$. A reliability analysis was not performed on the "community college advocacy category" due to only one dependent measure's being included in this category.

Based upon an evaluation of the mean plot data for the independent variables, it was determined that the reporting (decision-making authority) independent factor may be contributing to the variation problems. This resulted in a decision to remove this variable from this second series of analyses.

The second iteration of analyses included a MANOVA on the dataset with the collapsed independent factors and dependent measures for the “governance” and “organizational” factors. The frequency data remained the same as described in Table 16 for organizational structures and governance structures. To reserve space in the narrative, SPSS output of descriptive statistics for the frequency, mean (M), and standard deviation (SD), for each dependent variable is included in Appendix D.

The test for homogeneity of variance and covariance, Box’s Test for Equality of Covariance Matrices, was now non-significant, $F(105, 3499) = 1.67, p = .117$. Non-significance indicates the assumption of homogeneity was not violated.

Table 22

Categorization of Skills

Community College Competencies Categories	
Organizational Strategy	1. Defining, implementing, and promoting the college’s mission.
	5. Researching, developing, and implementing short and long range institutional plans.
	7. Identifying institutional problems and developing creative solutions.
	11. Assuming leadership role in curriculum development, student learning and assessment.
Resource Management	3. Managing operations including facilities planning, design, and/or maintenance.
	4. Planning, controlling, and/or making decisions regarding budget and finance.
	6. Understanding legal issues and dealing with legal concerns.
	8. Gathering, analyzing, and interpreting information for purposes of making informed decisions.
	10. Designing motivating jobs, clarifying lines of authority, and supervision of direct reports.
	13. Participating in personnel selection processes.
	14. Performing personnel appraisals and implementing professional development activities.
	15. Managing operational and instructional technology.
	18. Engaging in active delegation, balancing empowerment with appropriate feedback.
	23. Performing institutional development including fundraising and grant procurement.
25. Managing institutional and personal time.	
Collaboration	9. Assessing cross-cultural differences and promoting diversity.
	17. Mediating, negotiating, and resolving institutional conflict.
	22. Fostering collaborative decision making and team building.
	24. Fostering board relations and actively participating in institutional governance.
Communication	12. Motivating and inspiring the institutional management team.
	19. Performing public relations activities including public speaking engagements.
	21. Modeling interpersonal skills such as effective listening, coaching and mentoring.
Professionalism	16. Developing partnerships and participating in strategies for community and economic development.
	20. Pursuing personal growth, development, and maintaining peer network.
Community College Advocacy	2. Serving as advocate with members of the community and elected officials at all levels.

No significant differences were found among the organizational or governance structure on the dependent measures. For “organizational structure,” Wilks’s $\Lambda = .92$, $F(30, 1674) = 1.24$, $p = .172$, and for governance structures, Wilks’s $\Lambda = .98$, $F(12, 836) = .80$, $p = .651$. This lack of significance would indicate, based upon the test statistic, that there are still no between-group differences in variance. With a finding of non-significance, no determination of an effect can be made. Table 23 provides a description of the multivariate test for the MANOVA by group of the collapsed data.

Table 23

Multivariate Tests

Effect	Wilks’s Λ	F	Hypothesis df	Error df	Sig.
Organizational Structure	.916	1.243	30	1674	.172
Governance Structure	.977	.800	12	836	.651
Governance by Organizational Structure	.896	1.287	36	1838	.119

Follow-up analysis was conducted on the collapsed data by a series of univariate ANOVA tests using an $\alpha = 0.05$. A Levene’s Test of Equality of Error Variances conducted on this dataset continued to show problems with two of the dependent variables in the collapsed data. As depicted in Table 24, two of the six dependent variable categories indicate significance, thus not meeting the assumption of homogeneity and violating one of the primary assumptions upon which analysis of

variance is predicated. Four of the variables are non-significant, indicating the error variances for the groups may be similar for the data analyzed.

Table 24

Levene's Test of Equality of Error Variance – Collapsed Data

	F	df1	df2	Sig.
Organizational Strategy	2.182	13	423	.010
Resource Management	1.256	13	423	.237
Collaboration	1.534	13	423	.102
Communication	1.426	13	423	.144
Professionalism	1.285	13	423	.218
Community College Advocacy	1.933	13	423	.025

As a follow-up to the MANOVA analysis, an ANOVA for the collapsed dependent measures was performed at an $\alpha = .05$. No significant differences were found for the “organizational structures” or “governance structures” across the dependent measures, therefore no main effects are identified. As depicted in Table 25, the univariate test indicated no significant differences at $p > .05$; therefore no main effect can be attributed to the independent variables. The only significant finding from this test involved an interactive effect of organizational structures and governance structures with the dependent variable category “professionalism,” $F(6, 423) = 2.42, p < .05$. However, this effect does not address specifically the research questions of this study. Further, the significance found may be the result of sampling error or chance. No other main interactive results were found.

Table 25

Univariate ANOVA – Tests of Between Subject Effects – Collapsed Data

Source	Dependent Variable	Type III SS	df	MS	F	Sig.
Organizational Structures	Organizational Strategy	25.514	5	5.103	.693	.629
	Resource Management	114.457	5	22.891	.473	.796
	Collaboration	33.897	5	6.779	.802	.548
	Communication	24.839	5	4.968	.934	.459
	Professionalism	28.883	5	5.777	2.013	.076
	Community College Advocacy	7.585	5	1.517	1.622	.153
Governance Structures	Organizational Strategy	2.849	2	1.424	.193	.824
	Resource Management	28.406	2	14.203	.293	.746
	Collaboration	.915	2	.457	.054	.947
	Communication	9.616E- 02	2	4.808E- 02	.009	.991
	Professionalism	9.806	2	4.903	1.709	.182
	Community College Advocacy	.814	2	.407	.435	.647
Organizational Structures By Governance Structures	Organizational Strategy	36.141	6	6.024	.818	.556
	Resource Management	286.876	6	47.813	.988	.433
	Collaboration	37.343	6	6.224	.737	.620
	Communication	26.082	6	4.347	.817	.557
	Professionalism	41.687	6	6.948	2.422	.026
	Community College Advocacy	3.504	6	.584	.624	.711

A second series of tests were performed in this iteration for the independent factor, “reporting” (decision-making authority). The frequency data remained the same as described in Table 16 for decision-making authority. SPSS output of descriptive

statistics for the frequency, mean (M), and standard deviation (SD), for each dependent variable are included in Appendix D.

The test for homogeneity of variance and covariance, Box's Test for Equality of Covariance Matrices, was not significant, $F(42, 4338) = 1.16, p = .224$. No significance indicates the assumption of homogeneity was not violated.

Significant differences were found between the "reporting" factor and dependent measures, Wilks's $\Lambda = .93, F(12, 856) = 20620, p = .002$. This evidence of a between-group difference in variance would indicate a main effect existed between the independent variables and the dependent measures.

As a follow-up to the MANOVA, ANOVA on the dependent measures for the "reporting" factor was performed. A Levene's Test of Equality of Error Variances indicated non-significance for each of the collapsed independent variable categories. The non-significance for these data would indicate that the error variances of the groups are not significantly different, indicating that any variances between the groups may be due to the main effect. Table 26 provides a description of the Levene's Test of Equality of Error Variance for the collapsed data and the reporting independent variable.

Table 26

Levene's Test of Equality of Error Variance – Collapsed Data - Reporting

	F	df1	df2	Sig.
Organizational Strategy	1.094	2	434	.336
Resource Management	.443	2	434	.643
Collaboration	1.737	2	434	.443
Communication	1.737	2	434	.177
Professionalism	.023	2	434	.978
Community College Advocacy	.570	2	434	.566

Significant effects were found for the “reporting” independent factor for two of the dependent measures: “organizational strategy,” $F(2, 434) = 5.23, p < .05$; and “resource management,” $F(2, 434) = 7.64, p < .05$. No significant effects were found for the dependent measures collapsed categories: “collaboration,” $F(2, 434) = .98, p = .38$; “communication,” $F(2, 434) = 2.35, p = .096$; “professionalism,” $F(2, 434) = 1.43, p = .241$; and, “community college advocacy,” $F(2, 434) = .195, p = .82$.

The main effects for organizational strategy and resource management would support the premise that the frequency of skill utilization would be affected whether a CEO reports to a group, such as a board or coordinating entity, or whether they report to an individual, such as a chancellor or system president. However, in the absence of significance for the other dependent measures categories, this assertion cannot conclusively be made. Table 27 provides a description that depicts the univariate test indicating the analysis.

Table 27

Univariate ANOVA – Tests of Between Subject Effects – Collapsed Data – Reporting

Source	Dependent Variable	Type III SS	df	MS	F	Sig.
Reporting (Decision Making Authority)	Organizational Strategy	75.065	2	37.533	5.229	.006
	Resource Management	718.042	2	359.021	7.641	.001
	Collaboration	16.572	2	8.286	.981	.376
	Communication	24.843	2	12.422	2.352	.096
	Professionalism	8.447	2	4.224	1.427	.241
	Community College Advocacy	.367	2	.183	.195	.823

Statistical Analysis – Third Iteration

In an attempt to further analyze the data, it was determined that a third series of tests would be conducted analyzing the “governance structure” and “reporting” (decision-making authority) factors for the “conventional model” level of organizational structures across the dependent measures. The decision was based on the fact that the “conventional model” was the level of organizational structures which had the highest frequency of responses. The frequency data are described in Table 28 for the “conventional model” independent variable (n=368) by “governance structure” and “reporting” independent variables. SPSS output of descriptive statistics for the frequency, mean (M), and standard deviation (SD), for each dependent variable are included in Appendix D.

Table 28

Frequency of Between-Subject Factors – By Level - Conventional Model

Factor	Level	N
Governance Structure	Single (Stand-alone)	172
	Multicampus environment	194
	Not reported	2
	Total	368
Reporting (Decision-Making Authority)	Reports to Governing body	221
	Reports to Individual	135
	Not reported	12
	Total	368

The test for homogeneity of variance and covariance, Box's Test for Equality of Covariance Matrices, was significant, $F(63, 56618) = 1.384, p = .024$. Significance indicates the assumption of homogeneity was violated.

No significant differences were found among the "governance structure" factor and "reporting" factor on the dependent measures as a result of the MANOVA. For governance structures, Wilks's $\Lambda = .97, F(12, 710) = .911, p = .54$, and for reporting, Wilks's $\Lambda = .98, F(12, 710) = .686, p = .77$. No significant differences would indicate there were no main effects between the groups and the dependent measures. With Wilks's Λ being non-significant for "governance structures" and "reporting," no determination of an effect can be made.

A Levene's Test of Equality of Error Variances indicated no significance for the conventional model level of the organizational structure independent variable. Levene's Test of Equality of Error Variances is non-significant, $p > 0.05$, for the dependent measures if the assumption of homogeneity of variance has been met. Table 29 provides

a description of the Levene’s Test of Equality of Error Variance for the collapsed dependent measures and the conventional model level of organizational structures.

Table 29

Levene’s Test of Equality of Error Variance – Conventional Model

	F	df1	df2	Sig.
Organizational Strategy	.692	7	360	.679
Resource Management	.798	7	360	.589
Collaboration	.883	7	360	.520
Communication	.772	7	360	.611
Professionalism	.701	7	360	.671
Community College Advocacy	.707	7	360	.666

The ANOVA follow-up analysis, as described in Table 30, showed a significant main effect for “resource management” for the “governance structure” factor, $F(2, 360) = 3.49, p < .05$; and, an interactive effect for “resource management” between “governance structures” and “reporting,” $F(2, 360) = 2.71, p < .05$. In the absence of significance for the other dependent variable categories, an assertion cannot conclusively be made to answer the research questions.

Table 30

Univariate ANOVA – Tests of Between Subject Effects – Conventional Model

Source	Dependent Variable	Type III SS	df	MS	F	Sig.
Governance Structures	Organizational Strategy	21.667	2	10.834	1.535	.217
	Resource Management	333.974	2	166.987	3.489	.032
	Collaboration	42.462	2	21.231	2.426	.090
	Communication	16.796	2	8.398	1.582	.207
	Professionalism	4.496	2	2.248	.760	.468
	Community College Advocacy	.705	2	.353	.387	.679
Reporting	Organizational Strategy	5.648	2	2.824	.400	.671
	Resource Management	134.254	2	67.127	1.403	.247
	Collaboration	35.632	2	17.816	2.036	.132
	Communication	8.520	2	4.260	.803	.449
	Professionalism	.936	2	.468	.158	.854
	Community College Advocacy	.861	2	.430	.473	.624
Governance Structures By Reporting	Organizational Strategy	15.271	3	5.090	.721	.540
	Resource Management	389.684	3	129.895	2.714	.045
	Collaboration	16.172	3	5.391	.616	.605
	Communication	7.953	3	2.651	.500	.683
	Professionalism	8.155	3	2.718	.919	.432
	Community College Advocacy	3.985E-02	3	1.328E-02	.015	.998

A final series of tests was performed using the “governance structure” factor and the “conventional model” level of “organizational structure” factor, but removing the “reporting” factor to determine if any main effect existed across the dependent measures. This series simplified the analysis by using a single independent factor, “conventional model” level of the “organizational” factor, and the levels of “governance structure”

factor. Table 31 describes the frequency data for the conventional model level. SPSS output of descriptive statistics for the frequency, mean (M), and standard deviation (SD), for each dependent variable is included in Appendix D.

Table 31

Frequency of Between-Subject Factors – Conventional Model

Factor	Level	N
Governance Structure	Single (Stand-alone)	172
	Multicampus environment	194
	Not reported	2
	Total	368

Box’s Test for Equality of Covariance Matrices, was significant, $F(21, 472806) = .694, p = .844$, indicating the assumption of homogeneity was violated.

No significant differences were found among the “governance structure” factor and the dependent measures for the “conventional model” level, with Wilks’s $\Lambda = .98, F(12, 720) = .72, p = .73$. No significant differences would indicate no main effect was evident between the independent factors and dependent measures.

Levene’s Test of Equality of Error Variances is not significant with $p > .05$ for the “governance structure” factor, indicating the error variances of the groups are not significantly different. If Levene’s Test of Equality of Error Variances is significant for the dependent measures, this would indicate that the error variances of the groups are significantly different, violating one of the primary assumptions of ANOVA. Table 32 provides a description of the Levene’s Test of Equality of Error Variance for “governance structure” factor.

Table 32

Levene's Test of Equality of Error Variance – Governance Structure

	F	df1	df2	Sig.
Organizational Strategy	1.523	2	365	.219
Resource Management	1.370	2	365	.255
Collaboration	1.188	2	365	.306
Communication	.238	2	365	.788
Professionalism	1.811	2	365	.165
Community College Advocacy	1.495	2	365	.226

A univariate ANOVA was conducted as a follow-up to the MANOVA. No significant main effect for “governance structure” factor across any of the dependent measures was found with $\alpha = .05$. In the absence of significance, an assertion cannot conclusively be made to answer the research questions. Table 33 describes the univariate ANOVA analysis output.

Table 33

Univariate ANOVA – Tests of Between Subject Effects – Collapsed Data

Source	Dependent Variable	Type III SS	df	MS	F	Sig.
Governance Structure	Organizational Strategy	18.956	2	9.478	1.340	.263
	Resource Management	113.856	2	56.928	1.154	.316
	Collaboration	26.901	2	13.450	1.535	.217
	Communication	21.961	2	10.981	2.069	.128
	Professionalism	.908	2	.454	.154	.858
	Community College Advocacy	1.035	2	.518	.575	.563

Ancillary Findings

Part 4 of the questionnaire asked respondents to provide responses on four open-ended questions. Of the responses received (n=468), 425 included at least one response to one of the four open-ended questions. Responses to the questions consisted of a single word; a single phrase; one sentence; multiple words or lists; multiple phrases; multiple sentence responses; and/or a reference number to the respective item-stem from Part 1 of the questionnaire. Table 34 represents the number of questionnaires containing responses received for each question.

Table 34

Responses Received for Part 4 by Question Number

Question	Number of Responses Received
#1	420
#2	352
#3	307
#4	77

Open-ended question #1.

Question #1 asked respondents “Of the most frequently used skills, what are the most critical to you as a community college CEO?” The 25 management skill item-stem questions contained in Part 1 were used to analyze the responses. The decision to use the 25 management skill item-stem questions from Part 1 of the questionnaire as the method with which to code responses was influenced by the number of responses which referenced one or more of the item-stems in Part 1. The contents of the responses were placed into one of the categories identified by the question. Each of the 420 responses

was analyzed for its applicability to each category. Many responses were applicable to more than one category. For example, if a response to Question #1 contained a list of words including “vision – advocacy – financial,” each word would be considered under separate categories. Responses were categorized under 22 of the 25 item stems. Table 35 provides a summary of the categories used to analyze the data and frequency data for applicable responses.

The most critical skills cited in Question #1 were under the category “[m]odeling interpersonal skills such as effective listening, coaching, and mentoring.” With 179 responses, this category warranted further analysis. Responses included under this category are identified in Table 36, with “communication – oral and written,” “listening,” and “interpersonal skills” being the most frequently cited comments.

The second most frequently cited critical skills reported by respondents in response to Question #1 reference “[p]lanning, controlling, and/or making decisions regarding budget and finance.” Included under this category are references related to “fundraising,” “financial strategy,” and “funding.”

Table 35

Frequency of Responses – Categories for Analysis - Question #1

Management Skill Item-Item Categories	Frequency of responses
21. Modeling interpersonal skills such as effective listening, coaching and mentoring.	179
4. Planning, controlling, and/or making decisions regarding budget and finance.	63
1. Defining, implementing, and promoting the college's mission.	62
5. Researching, developing, and implementing short and long range institutional plans.	56
8. Gathering, analyzing, and interpreting information for purposes of making informed decisions.	51
19. Performing public relations activities including public speaking engagements.	51
2. Serving as advocate with members of the community and elected officials at all levels.	46
23. Performing institutional development including fundraising and grant procurement.	45
22. Fostering collaborative decision making and team building.	42
24. Fostering board relations and actively participating in institutional governance.	36
7. Identifying institutional problems and developing creative solutions.	32
12. Motivating and inspiring the institutional management team.	22
16. Developing partnerships and participating in strategies for community and economic development.	20
17. Mediating, negotiating, and resolving institutional conflict.	15
18. Engaging in active delegation, balancing empowerment with appropriate feedback.	15
13. Participating in personnel selection processes.	12
3. Managing operations including facilities planning, design, and/or maintenance.	9
6. Understanding legal issues and dealing with legal concerns.	7
10. Designing motivating jobs, clarifying lines of authority, and supervision of direct reports.	4
11. Assuming leadership role in curriculum development, student learning and assessment.	3
25. Managing institutional and personal time.	3
20. Pursuing personal growth, development, and maintaining peer network.	2
9. Assessing cross-cultural differences and promoting diversity.	0
14. Performing personnel appraisals and implementing professional development activities.	0
15. Managing operational and instructional technology.	0

Table 36

Frequency of responses – Emergent Subcategories – Modeling Interpersonal Skills

Emergent Subcategories	Frequency of responses
Communication – oral and written	103
Listening	56
Interpersonal – in general	44
Coaching	7
Mentoring	4
Questioning	3
Other	3

The third most frequently cited critical skills by respondents reference the college’s mission under the category “[d]efining, implementing, and promoting the college’s mission.” References including such words or phrases as “visioning,” “strategic visioning” and “setting a vision” were included under this category. The fourth most frequently cited critical skills included references that were categorized under “[r]esearching, developing, and implementing short and long range institutional plans.” Included in this category were such words and phrases as “strategic planning,” “setting and achieving college goals,” and “long range planning.”

Two categories tied for the fifth most frequently cited critical skills with 51 responses each. The category “[g]athering, analyzing, and interpreting information for purposes of making informed decisions” included such words or phrases as “decision making,” “data analysis,” and “informational analysis.” The category “Performing public

relations activities including public speaking” included such words or phrases as “community relations,” “external relations,” and “promoting college to the public.”

The next five critical management skills cited most frequently by the respondents include these: “[s]erving as advocate with members of the community and elected officials at all levels”; “[p]erforming institutional development including fundraising and grant procurement”; “[f]ostering collaborative decision making and team building”; “[f]ostering board relations and actively participating in institutional governance”; and “[i]dentifying institutional problems and developing creative solutions.”

Once all responses were analyzed, remaining responses not selected for inclusion under the categories were analyzed for emergent themes or categories. Common words and phrases that emerged were those too vague or general to include within one of the item-stem categories, or consisted of other skills, knowledge areas, or values individual respondents thought to be critical. Sixteen categories emerged including the following: leadership; building partnerships/collaboration; human relations; personnel; consensus building; motivation (in general); political/legislative; conceptual/critical thinking; integrity; conflict/crisis management; change; personality/humor; diplomacy; community; miscellaneous skills; and miscellaneous words or phrases. Responses included in the “miscellaneous words and phrases” category were those remaining where no more than two word or phrases were similar, thereby not supporting additional emergent categories. Table 37 provides a summary of each of the additional categories and the frequency of responses in each category.

Table 37

Frequency of responses – Emergent categories of analysis - Question #1

Emergent Categories	Frequency of responses
Miscellaneous words and phrases	48
Building partnership/collaboration	33
Leadership	18
Personnel	15
Political/legislative	14
Conceptual/critical thinking	14
Motivation (in general)	13
Consensus building	10
Change	7
Diplomacy	7
Community	7
Human relations	6
Integrity	5
Conflict/crisis management	4
Personality/humor	3

Comparing the responses identified in Table 37 to the American Association of Community Colleges leadership skill competencies, the skills categories cited may be classified into four of the AACC categories respectively: interpersonal skills, management skills, communication skills, and organizational skills.

Open-ended question #2.

Question #2 asked respondents “What organizational or governance factors do you believe have the most influence on the skills you utilize most frequently?” Content analysis was conducted on the 352 responses, grouping like words, phrases, and sentences following an emergent coding process. Fifteen categories emerged: organizational and governance issues; miscellaneous influences; faculty and internal influences; board relations and issues; fiscal and financial influences; unions and bargaining issues; shared and participatory governance; political, legislative and community context; communication; staff and human resources; teamwork and teambuilding; planning and visioning; external influences; do not understand question; and, interpersonal skills. Table 38 summarizes the frequency of responses for each emergent category for Question #2.

Responses under the “miscellaneous influences” include words, phrases or narrative not related to another category and for which no more than two topics were similar. Such topics would include values such as “fairness,” skills such as “multitasking,” and responses such as “time.” Organizational and governance issues were further divided into six subcategories: internal structure and governance; statewide system or structure; multi-campus structure; miscellaneous; geography and size; and policy governance. Table 39 represents the frequency of responses for the subcategories within the emergent category “[o]rganizational and governance issues.”

Table 38

Frequency of responses – Emergent Categories of Analysis - Question #2

Emergent Categories	Frequency of responses
Organizational and governance issues	87
Miscellaneous influences	70
Faculty and internal influences	59
Board relations and issues	56
Fiscal and financial influences	38
Unions and collective bargaining	36
Shared and participatory governance	35
Political, legislative and community context	25
Communication	20
Staff and human resources	19
Teamwork and teambuilding	18
Planning and visioning	15
External influences	14
Do not understand question	8
Interpersonal skills	7

Table 39

Frequency of responses – Emergent Subcategories – Organizational and Governance Issues

Emergent Subcategories	Frequency of responses
Internal structure and governance	34
Statewide system or structure	18
Multi-campus structure	16
Miscellaneous	8
Geography and size	7
Policy governance	4

Open-ended Question #3

Question #3 asked respondents “What other factors do you believe significantly impact the utilization of the critical skills you use most frequently?” Content analysis resulted in 14 categories’ emerging from the 307 questionnaires returned with responses for question #3. The emergent categories include: management/leadership skills and strategies; financial/financial resources; community/public relations and economic development; staff and human resources; political relations and environment; time; CEO experience/strengths; organizational and governance issues; board relations/issues; culture and campus climate; collective bargaining/unions; external influences; vision and mission; did not understand question; and, other/miscellaneous. Table 40 summarizes the frequency of responses for each of the emergent categories of analysis for Question #3.

Open-ended Question #4

Question #4 asked respondents “Do you have any other general comments or observations you wish to offer?” Content analysis resulted in seven categories’ emerging from the 77 questionnaires returned with responses for question #4. Comments made by respondents that were not germane to the study were not included in this analysis. Such comments or remarks included “good luck,” “best wishes on your study,” or “none.”

The emergent categories include comments which are characterized as preference for specific skills, what the CEO is or should be, miscellaneous comments, personnel, finance, external responsibilities, and student related comments. Table 41 summarizes the frequency of responses for each of the emergent categories of analysis for Question #4. “Preference for specific skills” included a wide variation of comments, including:

human relations or communication skills, listening, marketing skills, leadership, public relations, and diplomacy.

Table 40

Frequency of responses – Emergent Categories of Analysis - Question #3

Emergent Categories	Frequency of responses
Management/leadership skills and strategies	77
Fiscal/financial resources	64
Community/public relations & economic development	56
Other/Miscellaneous	44
Staff and human resources	34
Political relations & environment	24
Time	19
CEO experience/strengths	19
Organizational and governance issues	17
Board relations/issues	16
Culture and campus climate	14
Collective bargaining/unions	13
External Influences	11
Vision and Mission	6
Did not understand question	6

Table 41

Frequency of responses – Emergent Categories of Analysis - Question #4

Emergent Categories	Frequency of responses
Preference for specific skills	25
What the CEO is or should be	22
Miscellaneous comments	20
Personnel	7
Finance	5
External responsibilities	4
Student related comments	2

Summary

Summary of Statistical Analysis

The purpose of this study was to attempt to answer two research questions:

1. Does the organizational structure of community and technical colleges influence the frequency with which certain management skills are utilized by their CEOs?
2. Does the governance structure of community and technical colleges influence the frequency with which certain management skills are utilized by their CEOs?

A sample of 986 CEOs of public community and technical colleges was identified from the 2005 membership directory of the American Association of Community College. All elements within this purposive sample were sent a Community College Critical Management Skills Frequency of Utilization Questionnaire, an author-developed and piloted survey instrument. This nonprobability sampling approach resulted in a

return of 486 responses for a 47.5% response rate. The data were analyzed using SPSS, 11.0.

Demographic analysis profiled the typical respondent to this study as a male, 56 years of age or older, with a doctoral degree, more than 20 years of post-secondary experience, and over six years of experience in his present CEO position. However, problems encountered with homogeneity of variance test results would indicate the population was not homogenous.

The survey instrument collected data on the independent variables as nominal data. The independent variables, or factors, were “organization structure” with five levels, “governance structure” with six levels, and “reporting” (decision-making authority) with four levels. In an effort to improve the homogeneity of variance problem, the data were collapsed into dichotomous levels for “governance structure” and “reporting.” Data for “governance structures” were collapsed into single (stand-alone) and multicampus environments. “Reporting factor” data were collapsed into the two levels – reporting to a governing body, and reporting to an individual. The “organizational structure” factor was not collapsed based on the frequency being disproportionately skewed to the “conventional model” level. Collapsing this category would not have any positive impact on the disparity of n in each level of this factor.

Due to continued problems with homogeneity of variance, three iterations of tests, each with several series, were conducted in an attempt to ascertain answers to the research questions. Multivariate analysis of variance (MANOVA) was the primary test performed, followed by univariate analysis of variance (ANOVA).

Summary of First Iteration

In the first iteration of MANOVA, no significant difference was found on any of the independent factors across the dependent measures, indicating no between-group differences. The findings of this analysis would indicate that no determination can be made of the effect organizational or governance structures have on the frequency of skill utilization of the respondents.

In the follow-up Tests of Between Subject Effects for the univariate ANOVA, only 2 of the 25 dependent measures were determined to have significant main effects for the “organizational structures” factor: assessing cross-cultural differences and promoting diversity, and performing diversity. There were no main effects for “governance structures,” however, across the “reporting” factor; three of 25 dependent measures received a significant main effect: assuming leadership role in curriculum development, student learning and assessment; participating in personnel selection processes; and managing operational and instructional technology. These results, while showing main effect for a small number of dependent measures, are insufficient with regard to being able to make any conclusive attempt to answer the research questions.

Summary of Second Iteration

For the second iteration of analyses, the 25 dependent variables were collapsed into six categories of community college competencies using the AACC’s Competencies for Community College Leaders categories. The MANOVA conducted for “organizational structures” and “governance structures” factors resulted no violation of the assumption of homogeneity. No significant differences were found among

organizational or governance structure on the dependent measures. These findings for the second iteration of analyses would still indicate no between-group main effects.

Follow-up analysis using univariate ANOVA resulted in two of the dependent measures categories' having significant homogeneity values: organizational strategy and community college advocacy. Significant homogeneity values indicate the error variances of the groups are significantly different, suggesting the respondent group consists of more than one population. The four remaining categories were not significant, indicating homogeneity was not violated. However, the univariate ANOVA Tests of Between-Subject Effects did not indicate any significant differences or main effects for the "organizational structures" or "governance structures" factors.

Conducting a series of tests for the "reporting" factor, with the assumption of homogeneity not violated, significant differences were found in the test statistic between the "reporting" factor and dependent measures. These differences indicate a main effect between the independent factor and the dependent measures. Follow-up analysis using Levene's Test of Equality of Variance, however, did not produce any significant values. This would indicate variances of the groups would not be significantly different and any variation may be due to the main effect. The univariate ANOVA Tests of Between Subject Effects for the "reporting" factor resulted in two categories' having significant differences: organizational strategy and resource management. These differences indicate the potential for variances in the groups to be attributable to the main effect. This outcome is tenable based upon whether the CEO reports to an individual or governing board impacting the frequency of skill utilization. However, lack of significant differences for the remaining four categories would not support this premise.

Summary of Third Iteration

The third iteration of analyses focused on “governance structures” and “reporting” factors, isolating the conventional model level of the “organizational structure” factor. The conventional model level ($n=368$) is the largest group within the “organizational structure factor”; however the assumption of homogeneity was violated. No significant differences were found among the “governance structure” factor and “reporting” factor on the dependent measures as a result of the MANOVA on the conventional model level of organizational structures across the dependent measures. No significant differences would indicate there were no main effects between the groups and the dependent measures. The ANOVA Tests of Between-Subjects Effects produced one main effect, resource management for “governance structure” factor, and a significant interaction effect for resource management between “governance structures” and “reporting.” Lack of significance with other factors precludes any conclusive assertion’s being made as to the research questions.

The final step in the third iteration of analyses also resulted in fewer than sufficient results to make a determination of an effect. The “reporting factor” was removed and the conventional model level was analyzed with the “governance structures” factor, although the assumption of homogeneity was violated. No significant differences were found among the “governance structure” factor and the dependent measures for the conventional model level. No significant differences would indicate no main effect was evident between the independent factors and dependent measures.

Summary of Ancillary Findings

The open-ended questions in Part 4 of the “Community College Critical Management Skills Frequency of Utilization Questionnaire” were analyzed through an informal content analysis approach. Out of 468 respondents, 420 provided responses to Question #1 – “Of the most frequently used skills, what are the most critical to you as a community college CEO?” From the analysis of the content of the responses, 179 responses, by a ratio of 3 to 1 over the next most frequent category, were categorized under the category, “#21 – [m]odeling interpersonal skills such as effective listening, coaching and mentoring.” These 179 responses were further reduced to emergent subcategories that included verbal and written communication, listening, interpersonal skills in general, coaching, mentoring, and questioning skills.

Question #2 was completed by 352 respondents. This question asked respondents, “What organizational or governance factors do you believe have the most influence on the skills you utilize most frequently?” Responses that may be categorized as organizational and governance issues were cited most frequently with 87 responses. Of these 87 responses, 43% identified internal structures and governance as influencing frequency of skill utilization. Nearly 21% listed the statewide system or structure in which they work as having the most influence on the skills utilized most frequently.

Question #3, “What other factors do you believe significantly impact the utilization of the critical skills you use most frequently?” was answered on 307 of the returned surveys. Of the responses, an emergent category analysis reflected the greatest frequency of responses to mention management/leadership skills and strategies. Question #4, “Do you have any other general comments or observations you wish to offer?” was

answered by 77 respondents. The most frequently cited responses described a preference for specific skills or strategies including human relations, communication, leadership, and diplomacy.

CHAPTER 5: CONCLUSIONS AND IMPLICATIONS

The final chapter will summarize this research effort, present conclusions and implications, and offer recommendations. To this end, the chapter will be divided into eight sections: Summary of purpose; summary of methods; summary of descriptive data; summary of findings; summary of ancillary findings; conclusions; implications; and, recommendations.

Summary of Purpose

The purpose of this study was to determine the effects organizational and governance structures of public community and technical colleges in the United States have on the frequency with which chief executive officers (CEOs) utilize certain management skills. The conceptual framework on which this study was posited is premised by contingency theory (Burns & Stalker, 1996; Certo, 2000; Mondy & Premeaux, 1993; Simons, 1997). Management skills needed and utilized by CEOs to achieve institutional effectiveness, to improve operational efficiencies, and to effectively implement public policy were thought to be influenced by the two primary contextual variables: organizational structures and governance structures within which CEOs must function as administrators.

In an attempt to fulfill the purposes of this study, the following research questions were addressed:

1. Does the organizational structure of community and technical colleges influence the frequency with which certain management skills are utilized by their CEOs?

2. Does the governance structure of community and technical colleges influence the frequency with which certain management skills are utilized by their CEOs?

Summary of Methods

A sampling frame of 1,016 CEOs of public community and technical colleges in the United States was developed using the 2005 Membership Directory of the American Association of Community Colleges. From this purposive sampling frame, 30 CEOs were chosen at random for a pilot test of the “Community College Management Skills Frequency of Utilization Questionnaire,” an author-developed survey instrument.

The questionnaire offered four parts: Part 1 contained 25 item-stem questions depicting management skills reduced from pertinent literature; Part 2 asked respondents to identify their organizational structure, governance structure, and the decision-making authority to whom each reported; Part 3 contained select demographic questions; and Part 4 contained four open-ended questions.

The pilot questionnaire was sent to 30 randomly selected CEOs from the sampling frame with a return rate of 50% ($n=15$). A Cronbach’s Alpha (α) coefficient of reliability test was conducted on the returned survey instruments using the Statistical Package for Social Sciences (SPSS), 11.0. The Cronbach’s α for the piloted questionnaire was $\alpha = 0.86$, above the 0.80 threshold considered acceptable in most social science research.

A nonprobability sampling approach was employed for this study. The finalized questionnaire was sent to all elements of the final sampling frame ($N=986$), which was less the 30 units chosen for the pilot test. The intent of this approach was taken as a way to increase the response rate. The addresses for members of the sampling frame were representative of all 50 states within the United States.

Two separate mailings were conducted. The first mailing yielded a return of 251 responses and the second mailing yielded 217 responses for a total of 468, or a response rate of 47.5% of the sampling frame. The responses were returned from 47 states ranging from single responses in nine states to 43 responses from California. All surveys were maintained in a confidential manner. Returned questionnaires ($N=468$) were numbered in the order in which they were received and the data were entered into the data editor of SPSS, which was used to analyze both descriptive and inferential data.

Summary of Descriptive Data

The largest majority of the respondents, 67.9%, were male, with 29.1% being female. Seventy-seven percent of the respondents were 56 years of age or older: 67% of the respondents were within the 56 to 65 years of age bracket, and the remaining 10% were in the 66 years of age or older category. Eighty-eight percent of the total respondents disclosed a doctorate as their highest degree earned. Those with master's degrees made up only 10.7% of the respondents.

With regard to the number of years of total experience in post-secondary education, 87.5 % have 16 years or more post-secondary education experience, with 77% of the respondents indicating post-secondary experience greater than 20 years. The number of years in the present CEO position as reported by respondents ranged from less than a year to 30 years. The average length of time the respondents were in their current CEO posts was 6.45 years. The total number of years in all post-secondary CEO positions ranged from less than a year to 40 years. The average number of years respondents had spent in all CEO positions in post-secondary education was a little more than 10 years. The number of years of professional executive experience in a position

outside of higher education ranged from a less than a year to a maximum of 35 years of experience outside of higher education. The average number of years of executive experience outside of higher education, as reported by respondents, was 3.94 years.

Summary of Findings

Three iterations of statistical analyses were conducted in an effort to address the research questions of this study. None produced sufficient significant findings, or main effects, to provide a conclusive answer to either of the two research questions. The ancillary findings provided some insights into the factors that may influence the frequency of skills utilized and the skills considered most important by CEOs of public community and technical colleges.

The data were analyzed using multivariate analyses of variance (MANOVA), with subsequent univariate (ANOVA) analyses. Due to the problems of homogeneity of variances discovered in the initial analysis of the data set in this study, a determination was made to collapse the “governing structure” and “reporting” (decision-making authority) factors. A primary objective in collapsing the number of categories in the “governance” and “reporting” factors was to reduce the disparity of n in each level. The independent factor “organizational structure” was not collapsed. Levels for the independent factor governance structure were collapsed into three levels: single (stand alone) institutions ($n = 193$), multi-campus environments ($n = 241$), and not reported ($n = 3$). The levels for the independent factor “decision-making authority” were collapsed to three levels: reporting to a governing body ($n = 254$), reporting to an individual ($n = 168$), and not reported ($n = 15$). Once data were collapsed, three iterations of data analysis

were performed to ascertain if any main effects of the factors and their respective levels on the dependent variables could be determined.

The series of analyses undertaken to pursue an answer to the research questions generally consisted of the following: (a) test for homogeneity of variance using the Box's Test for Equality of Covariance Matrices, (b) MANOVAs for independent measures design for between-subject factors, (c) Levene's Test of Equality of Error Variances for the dependent variables across groups, and (d) univariate analyses on each dependent variable or measure. The Wilks's lambda (Λ) was the test statistic used for this study, the most common test when there are more than two groups formed by independent factors (Field, 2000).

Summary of Statistical Analysis – First Iteration

The first iteration of analysis using MANOVA resulted in no significant main effect for the independent factors across the dependent measures. Follow-up analysis was conducted using a series of univariate ANOVA tests for all levels of each independent factor and analyzing each of the dependent measures using a .05 level of significance to determine if there existed any main effect of the independent factor on each dependent measure.

The univariate ANOVA resulted in two of the dependent measures with a significant main effect for “organizational structures”: assessing cross-cultural differences and promoting diversity, and performing institutional development including fundraising and grant procurement. The Levene's Test of Equality of Error Variance for the item-stem “assessing cross-cultural differences and promoting diversity” was significant, thus the reliability of the univariate was questionable and any difference that

may exist in this variation for this dependent variable may be due to chance or sampling error. The Levene's Test of Equality of Error Variance for the item-stem "performing institutional development including fundraising and grant procurement" was not significant; therefore the difference that existed for this dependent variable may be due to the main effect of the factor organizational structure. This finding may indicate that depending on whether the CEO operated in a conventional model of organizational structure, a VP or executive dean model, provost model, instructional dean model, or department head model, the frequency of the time spent performing institutional development including fundraising and grant procurement may vary.

There were no main effects for the independent variable "governance structures," although three item stems indicated a level of significance for "reporting" (decision-making). These include assuming a leadership role in curriculum development, student learning and assessment; participating in personnel selection processes; and, managing operational and instructional technology. Levene's Test for these dependent measures was not significant, which means the variation could be due to the independent factor "reporting." However, with Box's Test being significant, Levene's Test is less robust. However, it is plausible to accept that whether a community college CEO reports to an individual or a group, the level of activity in each of these measures may vary. If a CEO reports to an individual such as a chancellor or system president, he or she may have a stronger operational role in curriculum development, personnel selection, and managing technology. If a CEO reports to a group such as a local board or coordinating council, it is plausible to assume he or she is more likely to delegate much of these activities to

other staff members, spending more time engaging in board related and political activities (Robbins, 2000; Yukl, 2006).

Summary of Statistical Analysis – Second Iteration

A second attempt to analyze the data was undertaken by collapsing the dependent measures into six categories using The American Association of Community College Competencies for Community College Leaders (American Association of Community Colleges, n.d.) as an *a priori* categorization method. The six categories into which each dependent measure was collapsed included organizational strategy, resource management, collaboration, communication, professionalism, and community college advocacy. Cronbach's alpha, a coefficient of reliability, was performed with mixed outcomes.

The second iteration of analyses included a MANOVA on the dataset with the collapsed dependent measures for the governance and organizational factors. No significant between-group differences were found in Wilks's Λ in the MANOVA test, so a follow-up analysis was conducted on the collapsed data by a series of univariate ANOVA tests.

The univariate ANOVA test likewise resulted in no significant differences; therefore, no main effect can be attributed to the independent factors. The only significant finding from the ANOVA involved an interactive effect of "organizational structures" and "governance structures" for the dependent measures category of "professionalism." This effect, however, did not address the research questions of this study.

A second series of tests was performed in this iteration for the independent factor, “reporting” (decision-making authority). With the assumption of homogeneity’s not being violated, the MANOVA resulted in a finding which indicated significant differences existed between the “reporting” factor and dependent measures.

The univariate ANOVA test found a significant difference for the reporting independent factor for two of the dependent measures collapsed categories: “organizational strategy” and “resource management.” These two collapsed categories contain 15 of the 25 dependent measures. These effects would support the premise that the frequency of skill utilization would be affected whether a CEO reports to a group, such as a board or coordinating entity, or whether she/he reports to an individual, such as a chancellor or system president. However, in the absence of significance for the other four dependent variable categories, a determination of effect of independent factors on the frequency of skill utilization by CEOs cannot conclusively be made. The significance for the two categories containing 15 of the dependent measures would provide indication of a relationship of skill frequency based upon the reporting context – whether a CEO reports to an individual or to a group – without taking into consideration organizational or governance models as part of the context.

Summary of Statistical Analysis – Third Iteration

A third series of tests was conducted focusing on the “governance” and “reporting” independent factors for the conventional model of organizational structures. The “governance structure” factor consisted of single (stand-alone) institutions and multicampus environments. The reporting factor considered those reporting to a governing body and those reporting to an individual. No significant differences were

evident from the MANOVA, indicating that there is not a main effect between the groups and the dependent measure.

With the Levene's Test of Equality of Error Variances indicating the homogeneity of variance had been met, the univariate ANOVA resulted in a significant main effect for the "resource management" category, for the "governance structure" factor, and for "resource management" for the interaction between "governance structures" and "reporting." This finding would indicate that some interaction is evident between the frequency of skill utilization in the "resource management" category for CEOs in single (stand-alone) versus multi-campus environments under the conventional model of organizational structure. However, in the absence of significance for the other dependent variable categories, an assertion cannot be made to satisfactorily answer the research questions.

A final series of tests using the "governance structure" factor with the "reporting" factor removed was conducted to determine if any main effect existed between this independent factor and the dependent measures. Based on Wilks's Λ , no significant main effect was evident for the "governance structures" factor, thus no determination of an effect could be made. The univariate ANOVA test showed no significant main effect for the "governance structure" factor, across any of the dependent measures. In the absence of significance, no assertion can be made to conclusively answer the research questions.

Summary of Ancillary Data

Responses to the four open-ended questions were analyzed as ancillary data. Question #1 asked respondents, "Of the most frequently used skills, what are the most critical to you as a community college CEO?" Question #2 asked respondents, "What

organizational or governance factors do you believe have the most influence on the skills you utilize most frequently?” Question #3 asked respondents, “What other factors do you believe significantly impact the utilization of the critical skills you use most frequently?” Finally, Question #4 asked respondents for other general comments or observations. Seven categories emerged from the responses.

By a ratio of nearly 3-to-1 over the next most frequent descriptions for Question #1, respondents indicated the most critical and frequently used skills as interpersonal skills, specifically oral and written communication, and listening. One respondent commented on communication as “...knowing when to speak and how to ‘frame’ one’s remarks.” Another respondent wrote, “CEOs need to listen to multiple constituencies so that all groups feel as though they had an opportunity to participate in the decision making process,” and a third respondent commented on communication as “the art of responsible listening.” The next most frequently cited responses were categorized as relating to budget and finance, the college’s mission, short and long range plans, informed decision-making, and public relations.

Respondents more frequently cited organizational and governance issues as factors which have the most influence on the skills they use most often in Question #2. With further reduction of organizational and governance issues, six categories emerged: internal structure and governance; statewide system or structure; multi-campus structure; geography and size; and policy governance. With regard to internal structures and governance, one respondent wrote, “the presence of multiple reporting and oversight groups require [sic] the ability to deal with complexity and ambiguity.” Another respondent wrote, “the relationship and reporting structure between the main campus and

the branch campus” was a factor that influenced frequency of skill utilization. Comments on the statewide system influences are exemplified by one respondent’s comments:

“...[T]here are decisions, directions made at the system level...that directly impacts [sic] direction of [the] institution. Some are political; some changes in strategic direction.”

The multi-campus structure enlisted a number of comments as a factor that influences skill utilization: “The fact that we are a multicampus institution enormously influences the decision making process. This is due to our desire for consistency across the campuses.” Other emergent categories of responses for Question #2 included faculty and internal influences, board relations and issues, fiscal and financial influences, unions and collective bargaining, and, shared and participatory governance.

The top five categories receiving the majority of responses for Question #3 included: management/leadership skills and strategies; fiscal/financial resources; community/public relations and economic development; staff and human resources, and, political relations & environment. The top two categories in Question #4 included preferences for specific skills, and comments on what the CEO is or should be.

Conclusions

The findings of no significant main effect between the groups of independent factors across the dependent measures do not provide sufficient basis with which to formulate answers to the research questions posed in this study: Do organizational structures, or do governance structures, of community and technical colleges influence the frequency with which certain management skills are utilized by their CEOs? Findings of no significant main effects may be attributable to limitations of this research. For example, the target population may not have been as homogenous as predicted,

weaknesses may have existed in the survey instrument, and there may have been a lack of consistent interpretation by the respondents of the independent factors. But the failure of this research to achieve a statistical determination of an effect of organizational and governance structure on the frequency with which CEOs utilize management skills raises several issues for further consideration.

The target population for this study was chief executive officers of the 1,016 public community and technical colleges and campuses who are members of the American Association of Community Colleges as identified in its 2005 Membership Directory. This target population, less 30 randomly chosen elements for the pilot study, became the sampling frame. A nonprobability approach was taken to improve the return of the survey. However, any generalizability that may be inferred from the results of this study is limited to the respondents. Any generalizability beyond the respondents will be left to the reader, but caution is to be exercised due to the concern for external validity.

The researcher's interpretation of the definitions of governance models, as described by the AACC 2005 Membership Directory, and organizational structure as taken from Underwood and Hammons (1999), may not have matched the understandings that were shared by those who responded to the survey instrument. Harrison, McLaughlin, and Coalter (1995) contend that self-reported survey data may often be the result of a minimal cognitive effort of the respondent yielding less than optimal information. CEOs may have related their specific situations to one of the several levels of governance and organizational structures which may not have adequately depicted the reality of the contextual situation of each respondent. Yulk (2006) cautions that use of ambiguous terms are interpreted differently by different individuals, therefore responses

may not adequately reflect the reality of the phenomenon being studied. Self-reported information by respondents in this research effort did not allow for verification of information, thus perceptions of respondents may not have been accurate in terms of their understanding of the contextual variables (Yukl, 2006).

CEOs' views of the general frequency with which they perform certain skills to carry out their day-to-day activities may also have been necessarily subjective. A respondent's answer of the frequency on one item-stem of the dependent measures may have led to or influenced the calculation of their frequency on another item stem without serious consideration of the time involved in that particular activity. This "heuristic response strategy" (Harrison et al., 1995, p. 375) is common in self-reported survey instruments as respondents construct responses often from short-term memory or readily available information.

The problems encountered with homogeneity throughout the statistical analyses raises additional concerns. The population may not have been homogenous due to the source chosen for the sampling frame. The sampling frame was drawn from identified CEOs of the membership of public member institutions of the AACC as defined in the 2005 Membership Directory. The CEO was listed for each single (stand-alone) institution, multi-campus college, campus unit of a multi-campus environment, or branch campus. The CEO as defined by the study and the actual CEO of the institution as perceived by the respondents may not have been the same individual. For example, a CEO of a campus unit of a multi-campus college who exercises functions of a CEO for her/his particular campus may perceive the system chancellor as the chief executive officer of the institution. CEOs of single (stand-alone) institutions are thought to be the

most homogeneous, although the analysis of this group did not prove to show a main effect between independent factors and dependent measures, and the assumption of homogeneity was violated during several iterations of the statistical analysis.

The researcher may have underestimated the adequacy of representation of this group with the population of interest. Katsinas and Kempner (2005) contend that neither the U. S. Department of Education nor the American Association of Community Colleges has a definitive list of the community and technical colleges in the United States. They purport inaccurate, duplicative, and underreported information is provided to the U. S. Department of Education as a result of inconsistencies in reporting. Some community college districts have separately accredited community college campuses while others have all campuses under one accreditation. Consequently, some campuses with independent accreditation would be listed as multiple member campuses with AACC while other multi-college institutions may be listed as single institution members. AACC member information provides a description of the classification of the institution, but this information is also self-reported by the member. Katsinas (2003) contended that while a need exists for research of community colleges, there was not a recognizable method for obtaining representative samples for community colleges due to the fact that a standard classification scheme did not exist. At the time this research was conducted, a standard Carnegie classification of community colleges did not exist beyond a single category of associate's college (The Carnegie Foundation for the Advancement of Teaching, 2006, Category-specific changes section, para. 1).

The lack of consistency creates ambiguity in comparing context in research of community and technical colleges. According to Rousseau and Fried (2001), sources of

conflicting findings or difficulty in identifying patterns in research findings are often due to contextual differences in organizational research. The use of the public member institutions of the American Association of Community Colleges as a sampling frame for this research may have added to the limitations of the research findings.

The management skills synthesized from the literature (AACC, 2003; Brown, et al., 2002; Hammond & Keller, 1990; Heffner, 1991; Macera, 1989; Porter, 2003; Townsend & Bassoppo-Moya, 1997) and reframed into 25 item-stem questions to serve as the dependent measures in the survey instrument may not accurately reflect the actual management skills exercised by CEOs of public community and technical colleges within the sampling frame. The perception of frequency may also not reflect reality due to the respondents' perceptions and their cognitive efforts as previously discussed (Harrison, et al., 1995), or respondents may have answered with an expected or perceived correct response rather than their interpretations of reality (Yukl, 2006).

Although the pilot test did not indicate any problems with the dependent measures, individual respondents may have interpreted each skill differently and the twenty-five item stems may have been too many to enlist serious consideration by the respondents. The classification schema of the three independent factors - organizational structure, governance structure, and decision-making authority - each had multiple levels. Although the pilot study seemed to warrant the presentation of the levels as developed and supported in the literature, the multiple levels may also have been too many. The 468 returned surveys were more than adequate to run statistical analysis, but the multiple independent factors with multiple levels diluted the number of cases in each cell. After

collapsing the data, main effects sufficient to answer the response rate were still inconclusive.

The ambiguity that may surround the interpretations by the respondents of the CEO position and the structural diversity of community colleges across the country may lead to a conclusion that, while sharing in a common mission, multiple perceptions of organizational and governance structures operating in different states systems create contextual differences that influence frequency of skill utilization beyond the effect of the factors considered in this study.

Finally, based on the assumption that each respondent shared equally in the interpretation of the independent variables and exhibited an accurate and similar cognitive effort in identifying the frequency of each management skill, it may be concluded that organizational and governance structures have no influence on the frequency with which CEOs utilize the management skills measured through the dependent factors.

Implications

Contingency theory was the primary premise upon which this research was based. It was posited that CEOs in similar organizational and governance structures would utilize management skills with similar frequency. Thus, a CEO's frequency of utilization of management skills in one organizational and governance system, or organizational contexts, would be different from the frequency of utilization of management skills by a CEO in a different organizational and governance system (Certo, 2000). The results of the statistical analysis in this study did not allow for this conclusion to be made. If an

effect had been evident from this research, contingency theory, in its most conservative definition, would have been verified.

But at its most liberal interpretation, contingency theory may offer a rationale for the apparent inconclusiveness of this research of the effect organizational contingencies have on frequency of skill utilization. Robbins (2000) contends that since organizations are diverse in size, objectives, and variety of tasks, it would be difficult to find principles that would work consistently in all situations. Wren (2005) likens the study of management to the study of cultures in that it consists of changing ideas about “the nature of work, the nature of human beings, and the functioning of organizations (p. 3).” People are the fundamental units of analysis in the study of organizations and management (Wren, 2005), and accordingly Bass (1990) contends the diversity and complexity of activities in organizations are such that simple models are not adequate to express what is involved in the managerial and leadership process.

Wren’s (2005) and Bass’ (1990) contention of the difficulty of researching organizations due to the human element speaks to a main implication of this study. The independent factors used in this study were determined by current research in the field (Underwood & Hammons, 1999), but application of the factors to each respondent’s situation relied on individual interpretation. This interpretation and application introduces an element of social construction into the research by each respondent.

The functionalist/positivist research paradigm framed the process through which this research was pursued (Heck & Hallinger, 1999; Kezar, Carducci, & Contreras-McGavin, 2006; Prestine, 1995). This perspective allowed the researcher to design a study of organizational context based upon the survey method using a linear rationale.

The research design used categories of organizational and governance structures as defined from the literature and which were self-reported from the respondents, dependent measures with which respondents rated frequency, and analyses of the responses which compared frequency of skill utilization of each group obtained from survey instruments. Although Birnbaum (1992) contends that the perspectives of individuals are vital in research of complex organizations, Yukl (2006) and Bass (1990) purport that survey questionnaires are not as well suited to study leadership and management topics in complex social and organizational environments as other methods which allow for more in-depth exploratory research.

Kezar et al. (2006) suggest that the subjective experiences of individuals in complex organizations are too complex to be generalized from functionalist research. Predicting outcomes based upon relationships between variables is premised on the basis that all individuals would perceive the same situation or context similarly. Social constructionists base research in organizational context on the interpretation of the individual's interaction with others and the social environment and culture of the organization. This interaction as context also affects perspectives of respondents, which would in turn influence a respondent's interpretation of the independent factors in survey research (Kezar et al.).

From a social constructionist perspective, respondents to the survey instrument used in this research effort with the same responses on the independent factors for organizational and governance structures may have interpreted their contexts differently, thus responding with different frequencies on the dependent measures. This would be supported by the lack of sufficient statistical evidence within this research. Bass (1990)

contends that “methodological problems” (p. 391) with leadership research in organizations is often resolved using multiple methods that use, in addition to self-reported data, observations or interviews. Yukl (2006) concurs that the use of qualitative methods, although often subjective and lacking in appreciation among many scholars, is a suitable alternative to researching phenomena in complex social systems.

Kezar et al. (2006) address a theoretical shift from contingency or situational models in the study of leadership in the organizational context to that of “processual theory” (p. 59). Processual theory deals with context from a constructionist rather than functionalist frame. Processual theory examines situational aspects that are subjectively interpreted by people in the specific context rather than defining context as an objective reality to which one responds. The contribution of Osborn, Hunt, and Jauch (2002) to the processual model expands upon the complexity of the organizational context to include such variables as culture, values, and organizational norms, further implicating the social constructionist perspective. In response to a question of “How can we know what we know?” (p. 23), Hunt (2004) describes a leadership research continuum with concrete, predictable realities on the left pursued through scientific approaches, and on the far right are the views of reality as arrived through more subjective approaches. Hunt suggests that research of leadership through a social constructionist position is a more contemporary approach based on interpersonal, human relational phenomena rather than more static epistemological frames or perspectives which seek causality. The approach described by Hunt would allow for an epistemological interpretation that realities in complex organizations are projections of human interpretation. Such interpretations in

contextual research may best be discovered using qualitative methods allowing for the richness of the subjects' conceptualizations and understandings to be explored.

Finally, in 2006, The Carnegie Foundation for the Advancement of Teaching adopted a new classification schema for community and technical colleges based on the work of Katsinas, Lacy, and Hardy (The Carnegie Foundation for the Advancement of Teaching, 2006). Prior to 2006, Carnegie classified community and technical colleges under the classification of "associate's colleges." The new categories include public rural-serving small; public rural-serving medium; public rural-serving large; public suburban-serving single campus; public suburban-serving multicampus; public urban-serving single campus; public urban-serving multicampus; public special use; private not-for-profit; private for-profit; public 2-year colleges under universities' public 4-year, primarily associate's; private not-for-profit 4 year, primarily associate's; and, private for-profit 4 year, primarily associate's (The Carnegie Foundation for the Advancement of Teaching, 2006).

In addition to the benefit of providing a more definitive method to disaggregate community colleges to 14 categories beyond a single category, Hardy and Katsinas (2006) intended the new classification system to help researchers by providing an operationally appealing framework in community college research by expanding classes and subclasses to the institutional universe of community colleges. Further, Hardy and Katsinas suggest using this new classification to pursue research topics including differences in governance models, similarities and/or differences in rural institutions, and many other topics hampered in past research for lack of a more definitive schema with which to research community and technical colleges. The study pursued in this research

effort falls within the research topics suggested by Hardy and Katsinas, but perhaps suffered from poorly defined and ambiguous classification categories used as independent factors.

Recommendations

The following recommendations have emerged through consideration of the data analysis and findings of this research effort.

1. Further study on the relationship of organizational context and frequency of management skill utilization needs to be performed. The literature supports the contention that relevance of skill importance depends on the situation which may be influenced by managerial level, type of organization, and the environmental context external to the organization (Yukl, 2006).
2. If in subsequent research CEOs are to be the target population, steps need to be taken to ensure like CEOs are being compared. This should improve the homogeneity of the group being studied. With the multiple organizational and governance models, research on single, stand-alone community and technical colleges continues to be most prevalent largely due to this factor.
3. “The Management Skills Frequency of Utilization Questionnaire,” or similar survey instrument, should be employed using the Carnegie classification schema as an independent factor. This may provide insights into whether further research is warranted using more complex contextual variables.
4. Generalizability may be improved by using a random sample of community and technical college CEOs in further research. With the new Carnegie

classification for associate's colleges, development of a homogenous sampling frame may be improved.

5. The research design may be expanded to include mixed methods as suggested by Bass (1990) and Yukl (2006), or a purely qualitative design employed to address the tenants of social constructionist research in complex organizations.
6. The dependent measures may be further collapsed to reduce the number of skill sets respondents would need to consider, but with sufficient variety to provide an adequate representation of CEOs' work activities which are fragmented, diverse, fast-paced, and varied (Bass, 1990). The AACCC's Competencies for Community College Leaders (American Association of Community Colleges, n.d.) may be an alternative to the 25 management skills used in this research effort.
7. Future research may consider the effect governance and organizational structures have on the frequency of skill utilization of CEOs considering size, type, and geographic proximity as a contextual variables (Hardy & Katsinas, 2006; McCormick & Cox, 2003; Rousseau & Fried, 2001). Hardy and Katsinas (2006) contend enrollment, geography (urban versus rural), and type (comprehensive versus technical) have an impact on both student populations and the organization.

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APPENDICES

APPENDIX A: Community College Management Skills Frequency of Utilization

Questionnaire

APPENDIX B IRB Approval and Cover Letters

APPENDIX C: Revised Community College Management Skills Frequency of

Utilization Questionnaire

APPENDIX D: Descriptive Statistics - MANOVA

APPENDIX E: Univariate ANOVA – Tests of Between Subject Effects

APPENDIX A: COMMUNITY COLLEGE MANAGEMENT SKILLS

FREQUENCY OF UTILIZATION QUESTIONNAIRE

Community College Management Skills Frequency of Utilization Questionnaire

Part 1

The purpose of this instrument is to measure the frequency with which certain critical skills are utilized in the management of community colleges. Please circle the number which best represents the frequency with which you utilize each of the skills represented using the scale of "1" for very **infrequently** to "6" for very **frequently**.

Strict confidentiality of all returned instruments will be maintained.

1. Defining, implementing, and promoting the college's mission.	Very Infrequently 1	2	3	4	5	Very Frequently 6
2. Serving as advocate with members of the community and elected officials at all levels.	Very Infrequently 1	2	3	4	5	Very Frequently 6
3. Managing operations including facilities planning, design, and/or maintenance.	Very Infrequently 1	2	3	4	5	Very Frequently 6
4. Planning, controlling, and/or making decisions regarding budget and finance.	Very Infrequently 1	2	3	4	5	Very Frequently 6
5. Researching, developing, and implementing short and long range institutional plans.	Very Infrequently 1	2	3	4	5	Very Frequently 6
6. Understanding legal issues and dealing with legal concerns.	Very Infrequently 1	2	3	4	5	Very Frequently 6
7. Identifying institutional problems and developing creative solutions.	Very Infrequently 1	2	3	4	5	Very Frequently 6
8. Gathering, analyzing, and interpreting information for purposes of making informed decisions.	Very Infrequently 1	2	3	4	5	Very Frequently 6
9. Assessing cross-cultural differences and promoting diversity.	Very Infrequently 1	2	3	4	5	Very Frequently 6
10. Designing motivating jobs, clarifying lines of authority, and supervision of direct reports.	Very Infrequently 1	2	3	4	5	Very Frequently 6
11. Assuming leadership role in curriculum development, student learning and assessment.	Very Infrequently 1	2	3	4	5	Very Frequently 6
12. Motivating and inspiring the institutional management team.	Very Infrequently 1	2	3	4	5	Very Frequently 6
13. Participating in personnel selection processes.	Very Infrequently 1	2	3	4	5	Very Frequently 6
14. Performing personnel appraisals and implementing professional development activities.	Very Infrequently 1	2	3	4	5	Very Frequently 6
15. Managing operational and instructional technology.	Very Infrequently 1	2	3	4	5	Very Frequently 6
16. Developing partnerships and participating in strategies for community and economic development.	Very Infrequently 1	2	3	4	5	Very Frequently 6
17. Mediating, negotiating, and resolving institutional conflict.	Very Infrequently 1	2	3	4	5	Very Frequently 6
18. Engaging in active delegation, balancing empowerment with appropriate feedback.	Very Infrequently 1	2	3	4	5	Very Frequently 6
19. Performing public relations activities including public speaking engagements.	Very Infrequently 1	2	3	4	5	Very Frequently 6
20. Pursuing personal growth, development, and maintaining peer network.	Very Infrequently 1	2	3	4	5	Very Frequently 6
21. Modeling interpersonal skills such as effective listening, coaching and mentoring.	Very Infrequently 1	2	3	4	5	Very Frequently 6
22. Fostering collaborative decision making and team building.	Very Infrequently 1	2	3	4	5	Very Frequently 6
23. Performing institutional development including fundraising and grant procurement.	Very Infrequently 1	2	3	4	5	Very Frequently 6
24. Fostering board relations and actively participating in institutional governance.	Very Infrequently 1	2	3	4	5	Very Frequently 6
25. Managing institutional and personal time.	Very Infrequently 1	2	3	4	5	Very Frequently 6

Please see reverse side to complete Parts 2, 3, and 4. Thank you.

APPENDIX B: IRB APPROVAL AND COVER LETTERS



Office of Research Integrity
Institutional Review Board

Wednesday, February 01, 2006

Dennis Prisk, Ed.D.
Marshall University Graduate School
100 Angus E. Peyton Dr.
South Charleston, WV 25303

RE: IRB Study # EX06-0043 At: Marshall IRB 2

Dear Dr. Prisk:

Protocol Title:

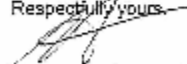
The Influence of Organizational and Governance Structures on the Frequency of Management Skill Utilization of Community College Chief Executive Officers in the United States

Expiration Date: 1/31/2007
Our Internal #: 2062
Type of Change: (Other) Exempted
Expedited ?:
Date of Change: 2/1/2006
Date Received: 2/1/2006
On Meeting Date:

Description: In accordance with 45CFR46.101, the above listed study was granted exempted approval for a period of 12 months. This study is for student Timothy Oxley. A progress report of this study is due prior to the anniversary date of January 31, 2007 or upon completion and or closure it prior to the anniversary date.

The purpose of this study is to determine the relationship between the organizational and governance structures of public community and technical colleges in the United States and the frequency with which the chief executive officers (CEOs) utilize certain management skills.

Respectfully yours,


Stephen D. Cooper, Ph.D.
Marshall University IRB/2 Chairperson

Date:

Dear Community College CEO:

Chief executive officers of public community colleges today face many opportunities and challenges that require a vast variety and keen proficiency of skills in order to effectively lead and manage their respective organizations. Additionally, proficient exercise of various skill sets are compounded as higher educational professionals assume new CEO positions in community colleges in the United States that vary significantly in their organizational and governance structures from system-to-system and state-to-state.

National attention has been focused on improving leadership training and educational efforts in response to a potential dearth of qualified individuals to assume the roles of chief executive officers in public community colleges. But to what extent should training and development be tailored to suit organizational and governance variations?

Enclosed you will find an author-developed questionnaire designed to study the influence different organizational and governance structures have on the frequency with which CEOs utilize certain management skills. I would ask for your participation by completing the survey and returning it in the enclosed self-addressed stamped envelope. It would be most helpful if you would respond within two weeks from receipt of this request. By returning the completed survey, you are consenting to take part in this study.

Your participation is very important to the successful completion of this study, although your participation is entirely voluntary and you are not required to respond to every item. All responses will remain confidential and anonymous. The questionnaires are not coded and will not be tracked. Please do not write your name or any identifying information on the instrument.

This research is being conducted for partial fulfillment of my doctoral studies in higher education administration. If you have any questions concerning your rights as a research participant you can contact Dr. Stephen Cooper, Marshall University IRB#2 Chair at (304) 696-4303. If you have questions regarding this study or survey instrument, please feel free to contact me. Please retain this cover letter for your records should any future questions arise. Thank you for taking the time to assist me with this endeavor.



STL IRB
FEB 1 2006
APPROVED

Sincerely,

Timothy R. Osley
(304) 367-4037 office
tosley@fairmontstate.edu

Enclosure

Date

Dear Community College CEO:

Several weeks ago you received a request to participate in a pilot study for an author-developed questionnaire designed to study the influence different organizational and governance structures may have on the frequency with which chief executive officers of public community colleges exercise certain management skills. If you responded, I appreciate your assistance and you may ignore this second request. If you have not, please consider assisting me in this endeavor.

This research is being conducted for partial fulfillment of my doctoral studies in higher education administration, but more importantly, may help provide additional insights into the complex and vast roles of the chief executive officers of public community colleges in the United States today.

Knowing how difficult it is to find time to do the things that are necessary, it is even more difficult to find time to respond to the many requests like this one. If you could respond to the survey and provide any input you deem may improve the instrument, it would greatly assist me in what I believe to be important research on the role of community college chief executive officers.

Of course, your participation in this pilot is voluntary and you are not required to respond to every item. All responses will remain confidential and anonymous. The questionnaires are not coded and will not be tracked. Please do not write your name or any identifying information on the instrument. A self-addressed stamped envelop is enclosed for your convenience. It would be most helpful if you would respond no later than two weeks from receipt of this follow-up request. By returning the completed survey, you are consenting to take part in this pilot study.

If you have any questions concerning your rights as a research participant you can contact Dr. Stephen Cooper, Marshall University IRB#2 Chair at (304) 695-4303. If you have questions regarding this pilot study or survey instrument, please feel free to contact me. Please retain this cover letter for your records should any future questions arise. Thank you for taking the time to assist me with this endeavor.



IRB
FEB 1 2005
APPROVED

Sincerely,

Timothy R. Oxley
(304) 367-4037 office
toxley@fairmontstate.edu

enclosure

Date

Dear Community College CEO:

Chief executive officers of public community colleges face many opportunities and challenges that require a vast variety and keen proficiency of skills in order to effectively lead and manage their respective organizations. Additionally, proficient exercise of various skill sets are compounded as higher educational professionals assume new CEO positions in community colleges in the United States that vary significantly in their organizational and governance structures from system-to-system and state-to-state.

National attention has been focused on improving leadership training and educational efforts in response to a potential dearth of qualified individuals to assume the roles of chief executive officers in public community colleges. But to what extent should training and development be tailored to suit organizational and governance variations?

You have been randomly selected to participate in a pilot study for an author-developed questionnaire designed to study the influence different organizational and governance structures have on the frequency with which CEOs utilize certain management skills. I would ask for your participation and input by completing the survey, and then providing any written comments you feel may improve the instrument.

Your participation in this pilot is very important to the successful completion of this study, although your participation is entirely voluntary and you are not required to respond to every item. All responses will remain confidential and anonymous. The questionnaires are not coded and will not be tracked. Please do not write your name or any identifying information on the instrument. A self-addressed stamped envelope is enclosed for your convenience. It would be most helpful if you would respond within two weeks from receipt of this request. By returning the completed survey, you are consenting to take part in this pilot study.

This research is being conducted for partial fulfillment of my doctoral studies in higher education administration. If you have any questions concerning your rights as a research participant you can contact Dr. Stephen Cooper, Marshall University IRB#2 Chair at (304) 696-4393. If you have questions regarding this pilot study or survey instrument, please feel free to contact me. Please retain this cover letter for your records should any future questions arise. Thank you for making the time to assist me with this endeavor.



Enclosure

IRB

FEB 1 2006

APPROVED

Sincerely,

Timothy R. Oxley
(304) 367-4037 - office
toxley@marshall.edu

Date:

Dear Community College CEO:

Several weeks ago you received a request to participate in a survey using an author-developed questionnaire designed to study the influence different organizational and governance structures may have on the frequency with which chief executive officers of public community colleges exercise certain management skills. If you responded, I appreciate your assistance and you may ignore this second request. If you have not, please consider assisting me in this endeavor.

This research is being conducted in partial fulfillment of my doctoral studies in higher education administration, but more importantly, may help provide additional insights into the complex and vast roles of the chief executive officer of public community colleges in the United States today.

Knowing how difficult it is to find time to do the things that are necessary, it is even more difficult to find time to respond to the many requests like this one. If you could respond to the survey it would greatly assist me in what I believe to be important research on the role of community college chief executive officers.

Enclosed you will find an author-developed questionnaire designed to study the influence different organizational and governance structures have on the frequency with which CEOs utilize certain management skills. I would ask for your participation by completing the survey and returning it in the enclosed self-addressed stamped envelope. It would be most helpful if you would respond within two weeks from receipt of this request. By returning the completed survey, you are consenting to take part in this study.

Your participation is very important to the successful completion of this study, although your participation is entirely voluntary and you are not required to respond to every item. All responses will remain confidential and anonymous. The questionnaires are not coded and will not be tracked. Please do not write your name or any identifying information on the instrument.

If you have any questions concerning your rights as a research participant you can contact Dr. Stephen Cooper, Marshall University IRB/EC Chair at (304) 696-4303. If you have questions regarding this study or survey instrument, please feel free to contact me. Please retain this cover letter for your records should any future questions arise. Thank you for taking the time to assist me with this endeavor.

Sincerely,



Enclosure

SDC IRB
FEB 1 2006
APPROVED

Timothy R. Oxley
(304) 367-4037 office
toxley@fairmontstate.edu

**APPENDIX C: REVISED COMMUNITY COLLEGE MANAGEMENT SKILLS
FREQUENCY OF UTILIZATION QUESTIONNAIRE**

Community College Management Skills Frequency of Utilization Questionnaire

Part 1

The purpose of this instrument is to measure the frequency with which certain critical skills are utilized in the management of community colleges. Please circle the number which best represents the frequency with which you utilize each of the skills represented using the scale of "1" for very **infrequently** to "6" for very **frequently**.

Strict confidentiality of all returned instruments will be maintained.

1. Defining, implementing, and promoting the college's mission.	Very Infrequently 1 2 3 4 5 6 Very Frequently
2. Serving as advocate with members of the community and elected officials at all levels.	Very Infrequently 1 2 3 4 5 6 Very Frequently
3. Managing operations including facilities planning, design, and/or maintenance.	Very Infrequently 1 2 3 4 5 6 Very Frequently
4. Planning, controlling, and/or making decisions regarding budget and finance.	Very Infrequently 1 2 3 4 5 6 Very Frequently
5. Researching, developing, and implementing short and long range institutional plans.	Very Infrequently 1 2 3 4 5 6 Very Frequently
6. Understanding legal issues and dealing with legal concerns.	Very Infrequently 1 2 3 4 5 6 Very Frequently
7. Identifying institutional problems and developing creative solutions.	Very Infrequently 1 2 3 4 5 6 Very Frequently
8. Gathering, analyzing, and interpreting information for purposes of making informed decisions.	Very Infrequently 1 2 3 4 5 6 Very Frequently
9. Assessing cross-cultural differences and promoting diversity.	Very Infrequently 1 2 3 4 5 6 Very Frequently
10. Designing motivating jobs, clarifying lines of authority, and supervision of direct reports.	Very Infrequently 1 2 3 4 5 6 Very Frequently
11. Assuming leadership role in curriculum development, student learning and assessment.	Very Infrequently 1 2 3 4 5 6 Very Frequently
12. Motivating and inspiring the institutional management team.	Very Infrequently 1 2 3 4 5 6 Very Frequently
13. Participating in personnel selection processes.	Very Infrequently 1 2 3 4 5 6 Very Frequently
14. Performing personnel appraisals and implementing professional development activities.	Very Infrequently 1 2 3 4 5 6 Very Frequently
15. Managing operational and instructional technology.	Very Infrequently 1 2 3 4 5 6 Very Frequently
16. Developing partnerships and participating in strategies for community and economic development.	Very Infrequently 1 2 3 4 5 6 Very Frequently
17. Mediating, negotiating, and resolving institutional conflict.	Very Infrequently 1 2 3 4 5 6 Very Frequently
18. Engaging in active delegation, balancing empowerment with appropriate feedback.	Very Infrequently 1 2 3 4 5 6 Very Frequently
19. Performing public relations activities including public speaking engagements.	Very Infrequently 1 2 3 4 5 6 Very Frequently
20. Pursuing personal growth, development, and maintaining peer network.	Very Infrequently 1 2 3 4 5 6 Very Frequently
21. Modeling interpersonal skills such as effective listening, coaching and mentoring.	Very Infrequently 1 2 3 4 5 6 Very Frequently
22. Fostering collaborative decision making and team building.	Very Infrequently 1 2 3 4 5 6 Very Frequently
23. Performing institutional development including fundraising and grant procurement.	Very Infrequently 1 2 3 4 5 6 Very Frequently
24. Fostering board relations and actively participating in institutional governance.	Very Infrequently 1 2 3 4 5 6 Very Frequently
25. Managing institutional and personal time.	Very Infrequently 1 2 3 4 5 6 Very Frequently

Please see reverse side to complete Parts 2, 3, and 4. Thank you.

Community College Management Skills Frequency of Utilization Questionnaire, continued

Part 2

A. Please indicate the organizational structure which **best represents** your institution (choose one):

- Conventional Model – Vice presidents or deans reporting to the president
- Vice President or Executive Dean Model – Vice presidents or deans report to executive vice president who reports to the president
- Provost model – Vice presidents for academic and other departmental directors report to a provost who reports to the president
- Instructional dean model – Two or more deans in charge of instruction in several disciplines reporting directly to the president
- Department head model – Heads of various other units report to the president

B. Please indicate the governance model which **best represents** your institution (choose one):

- Single institution (stand alone)
- Multicollege district
- College within multicollege district
- Multicampus college
- Campus of multi-campus college
- University branch campus

C. Please indicate the decision-making authority which **best represents** the one to whom you directly report (choose one):

- Governing board
- Chancellor
- President
- Other (please identify): _____

Part 3

A. Demographic Information:

Age: ____ 26-35; ____ 36-45; ____ 46-55; ____ 56-65; ____ 66 and older

Sex: ____ M ____ F

Highest degree earned: _____ Institutional enrollment: _____

Years of post-secondary experience: ____ <5; ____ 6-10; ____ 11-15; ____ 16-20; ____ >20

Years in present CEO position: _____

Total years in all post-secondary CEO positions: _____ (inclusive of present position)

Years of professional executive experience outside of higher education: _____

Part 4

1. Of the most frequently used skills, what are the most critical to you as a community college CEO?

2. What organizational or governance factors do you believe have the most influence on the skills you utilize most frequently?

3. What other factors do you believe significantly impact the utilization of the critical skills you use most frequently?

4. Do you have any other general comments or observations you wish to offer?

Please return using the enclosed SASE, or mail to Tim Oxley c/o 242 Coventry Drive, Bridgeport, WV 26330

APPENDIX D: DESCRIPTIVE STATISTICS - MANOVA

Descriptive Statistics

Organizational Structure	Governance Structure	Decision-making	Mean	Std. Deviation	N
Defining, implementing, and promoting the college's mission		Total	4.00	-	1
		Total	4.00	-	1
	Single (stand-alone)	Reports to Governing body	5.00	-	1
		Total	5.00	-	1
	Multicampus	Reports to Individual	5.33	.577	3
		Total	5.33	.577	3
	Total	Reports to Governing body	4.00	-	1
		Reports to Individual	5.00	-	1
	Total	Reports to Individual	5.33	.577	3
		Total	5.00	.707	5
Conventional Model		Reports to Governing body	6.00	-	1
		Total	6.00	-	1
	Single (stand-alone)	Reports to Governing body	6.00	-	1
		Total	6.00	.000	2
	Single (stand-alone)	Reports to Governing body	5.17	.753	6
		Reports to Individual	5.05	1.117	133
	Single (stand-alone)	Reports to Individual	5.27	.801	33
		Total	5.10	1.052	172
	Multicampus	Reports to Governing body	6.00	.000	5
		Reports to Individual	4.98	1.141	87
Multicampus	Reports to Individual	5.19	.992	102	
	Total	5.11	1.062	194	
Total	Reports to Governing body	5.58	.669	12	
	Reports to Individual	5.03	1.124	221	
Total	Reports to Individual	5.21	.947	135	
	Total	5.11	1.055	368	
Vice President or Executive Dean Model	Single (stand-alone)	Reports to Governing body	4.13	1.642	8
		Reports to Individual	5.40	.894	5
	Single (stand-alone)	Total	4.62	1.502	13
		Reports to Governing body	5.64	.674	11
	Multicampus	Reports to Individual	5.25	.707	8
		Total	5.47	.697	19
	Total	Reports to Governing body	5.00	1.374	19
		Reports to Individual	5.31	.751	13
	Total	Total	5.12	1.157	32
		Single (stand-alone)	Reports to Governing body	6.00	-
Total	6.00		-	1	
Multicampus	Reports to Governing body	6.00	.000	2	
	Reports to Individual	6.00	-	1	
Multicampus	Reports to Individual	5.00	.739	12	
	Total	5.20	.775	15	
Total	Reports to Governing body	6.00	.000	2	
	Reports to Individual	6.00	.000	2	
Total	Reports to Individual	5.00	.739	12	
	Total	5.25	.775	16	
Provost Model	Single (stand-alone)	Reports to Governing body	4.75	1.893	4
		Total	4.75	1.893	4
	Multicampus	Reports to Governing body	3.67	2.309	3
		Reports to Individual	5.50	.577	4
	Multicampus	Total	4.71	1.704	7
		Reports to Governing body	4.29	1.976	7
	Total	Reports to Individual	5.50	.577	4
		Total	4.73	1.679	11

Descriptive Statistics

	Organizational Structure	Governance Structure	Decision-making	Mean	Std. Deviation	N
Defining, implementing, and promoting the college's mission	Department Head Model	Single (stand-alone)	Reports to Governing body	5.00	.	1
			Reports to individual	3.00	.	1
			Total	4.00	1.414	2
		Multicampus	Reports to Governing body	4.67	.577	3
			Total	4.67	.577	3
			Total	4.75	.500	4
		Total	Reports to Governing body	3.00	.	1
			Reports to individual	4.40	.894	5
			Total	5.00	1.414	2
		Single (stand-alone)	Reports to Governing body	6.00	.	1
			Total	5.33	1.155	3
			Total	5.17	.753	6
		Multicampus	Reports to Governing body	5.00	1.172	148
			Reports to individual	5.23	.872	39
			Total	5.05	1.107	193
		Total	Reports to Governing body	5.01	1.156	105
			Reports to individual	5.19	.933	129
			Total	5.13	1.036	241
		Total	Reports to Governing body	5.53	.743	15
			Reports to individual	5.01	1.163	254
Total	5.20		.917	168		
Serving as advocate with members of the community and elected officials at all levels	Conventional Model	Single (stand-alone)	Reports to Governing body	4.00	.	1
			Reports to individual	4.00	.	1
			Total	4.00	.	1
		Multicampus	Reports to individual	6.00	.	1
			Total	6.00	.	1
			Total	5.00	.000	3
		Total	Reports to individual	5.00	.000	3
			Reports to Governing body	5.00	.000	3
			Total	5.00	.707	5
		Single (stand-alone)	Reports to Governing body	6.00	.	1
			Reports to individual	6.00	.	1
			Total	6.00	.000	2
		Multicampus	Reports to Governing body	5.50	.837	6
			Reports to individual	5.29	1.027	133
			Total	5.24	.792	33
		Total	Reports to Governing body	5.28	.976	172
			Reports to individual	5.60	.548	5
			Total	5.33	.948	87
		Total	Reports to individual	5.27	.924	102
			Reports to Governing body	5.31	.926	194
Total	5.58		.669	12		
Total	Reports to Governing body	5.31	.993	221		
	Reports to individual	5.27	.891	135		
	Total	5.30	.948	368		
Vice President or Executive Dean Model	Single (stand-alone)	Reports to Governing body	4.37	1.188	8	
		Reports to individual	5.80	.447	5	
		Total	4.92	1.188	13	

Descriptive Statistics

	Organizational Structure	Governance Structure	Decision-making	Mean	Std. Deviation	N
Serving as advocate with members of the community and elected officials at all levels	Vice President or Executive Dean Model	Multicampus	Reports to Governing body	5.36	.809	11
			Reports to Individual	4.75	.707	8
			Total	5.11	.809	19
		Total	Reports to Governing body	4.95	1.079	19
			Reports to Individual	5.15	.801	13
			Total	5.03	.967	32
	Provost Model	Single (stand-alone)	Reports to Governing body	5.00	.	1
			Total	5.00	.	1
			Multicampus	5.00	.000	2
		Total	Reports to Governing body	5.00	.	1
			Reports to Individual	4.83	1.115	12
			Total	4.87	.990	15
	Instructional Dean Model	Single (stand-alone)	Reports to Governing body	5.00	.000	2
			Reports to Individual	4.83	1.115	12
			Total	4.87	.957	16
		Total	Reports to Governing body	5.00	.000	2
			Reports to Individual	4.83	1.115	12
			Total	4.87	.957	16
	Department Head Model	Single (stand-alone)	Reports to Governing body	4.75	1.258	4
			Total	4.75	1.258	4
			Multicampus	3.33	2.082	3
		Total	Reports to Individual	5.75	.500	4
			Total	4.71	1.799	7
			Reports to Governing body	4.14	1.676	7
Total	Single (stand-alone)	Reports to Individual	5.75	.500	4	
		Total	4.73	1.555	11	
		Reports to Governing body	5.00	.	1	
	Total	Reports to Individual	6.00	.	2	
		Total	5.50	.707	1	
		Reports to Governing body	5.00	.000	3	
Total	Multicampus	Reports to Governing body	5.00	.000	3	
		Total	5.00	.000	3	
		Reports to Governing body	5.00	.000	4	
	Total	Reports to Individual	6.00	.	1	
		Total	5.20	.447	5	
		Reports to Governing body	5.00	1.414	2	
Managing operations including facilities planning, design, and/or maintenance	Single (stand-alone)	Reports to Governing body	6.00	.	1	
		Total	5.33	1.155	3	
		Reports to Governing body	5.50	.837	6	
		Reports to Individual	5.22	1.049	148	
		Reports to Individual	5.33	.772	39	
		Total	5.25	.991	193	
	Total	Multicampus	Reports to Governing body	5.43	.535	7
			Reports to Individual	5.27	1.003	105
			Total	5.21	.924	129
		Total	Reports to Individual	5.24	.949	241
			Total	5.40	.737	15
			Reports to Governing body	5.24	1.027	254
Total	Reports to Individual	5.24	.891	168		
	Total	5.25	.967	437		
Managing operations including facilities planning, design, and/or maintenance	Single (stand-alone)	Total	5.00	.	1	
		Reports to Governing body	5.00	.	1	
Managing operations including facilities planning, design, and/or maintenance	Single (stand-alone)	Reports to Governing body	4.00	.	1	
		Total	4.00	.	1	

Descriptive Statistics

	Organizational Structure	Governance Structure	Decision-making	Mean	Std. Deviation	N
Managing operations including facilities planning, design, and/or maintenance	Multicampus	Reports to Individual		4.67	.577	3
			Total	4.67	.577	3
		Total		5.00	.	1
			Reports to Governing body	4.00	.	1
		Reports to Individual		4.67	.577	3
			Total	4.60	.548	5
	Conventional Model	Reports to Governing body		4.00	.	1
			Total	5.00	.	1
		Single (stand-alone)		4.50	.707	2
			Reports to Governing body	4.50	1.049	6
		Reports to Individual		4.10	1.147	133
			Total	3.70	1.132	33
	Total		4.03	1.149	172	
		Reports to Governing body	5.40	.548	5	
	Reports to Individual		3.94	1.165	87	
		Total	4.25	1.183	102	
	Total		4.14	1.187	194	
		Reports to Governing body	4.83	.937	12	
	Reports to Individual		4.04	1.153	221	
		Total	4.12	1.191	135	
	Total		4.10	1.167	368	
		Reports to Governing body	3.00	.926	8	
	Reports to Individual		4.40	1.140	5	
		Total	3.54	1.198	13	
Total		4.00	1.183	11		
	Reports to Governing body	4.25	1.035	8		
Total		4.11	1.100	19		
	Reports to Governing body	3.58	1.170	19		
Reports to Individual		4.31	1.032	13		
	Total	3.87	1.157	32		
Vice President or Executive Dean Model	Single (stand-alone)		2.00	.	1	
		Total	2.00	.	1	
	Multicampus		4.50	.707	2	
		Reports to Governing body	4.00	.	1	
	Reports to Individual		4.67	.985	12	
		Total	4.60	.910	15	
Total		4.50	.707	2		
	Reports to Governing body	3.00	1.414	2		
Reports to Individual		4.67	.985	12		
	Total	4.44	1.094	16		
Provost Model	Single (stand-alone)		4.25	.957	4	
		Total	4.25	.957	4	
	Multicampus		4.00	1.732	3	
		Reports to Individual	3.75	1.258	4	
	Total		3.86	1.345	7	
		Reports to Governing body	4.14	1.215	7	
Reports to Individual		3.75	1.258	4		
	Total	4.00	1.183	11		
Instructional Dean Model	Single (stand-alone)		2.00	.	1	
		Reports to Individual	3.00	.	1	
	Total		2.50	.707	2	

Descriptive Statistics

	Organizational Structure	Governance Structure	Decision-making	Mean	Std. Deviation	N					
Managing operations including facilities planning, design, and/or maintenance	Department Head Model	Multicampus	Reports to Governing body	4.33	1.155	3					
			Total	4.33	1.155	3					
			Reports to Governing body	3.75	1.500	4					
	Total		Total	Reports to Individual	3.00	.	1				
				Total	3.60	1.342	5				
			Total	Reports to Governing body	4.50	.707	2				
				Total	5.00	.	1				
			Single (stand-alone)	Total	4.67	.577	3				
				Total	4.50	1.049	6				
				Reports to Governing body	4.01	1.166	148				
			Multicampus	Multicampus	Reports to Individual	3.77	1.135	39			
					Total	3.98	1.159	193			
					Total	5.14	.690	7			
			Total	Total	Reports to Governing body	3.96	1.160	105			
					Reports to Individual	4.29	1.147	129			
					Total	4.17	1.162	241			
			Total	Total	Reports to Governing body	4.80	.862	15			
Reports to Individual	4.00	1.161			254						
Total	4.17	1.162			168						
Planning, controlling, and/or making decisions regarding budget and finance			Total	4.09	1.161	437					
			Reports to Governing body	5.00	.	1					
			Total	5.00	.	1					
			Single (stand-alone)	Reports to Governing body	5.00	.	1				
				Total	5.00	.	1				
			Multicampus	Multicampus	Reports to Individual	5.33	.577	3			
					Total	5.33	.577	3			
			Total	Total	Reports to Governing body	5.00	.	1			
					Reports to Individual	5.33	.577	3			
					Total	5.20	.447	5			
			Conventional Model			Reports to Governing body	5.00	.	1		
						Total	5.00	.	1		
						Total	5.00	.000	2		
						Single (stand-alone)	Single (stand-alone)	Total	5.33	.516	6
								Reports to Governing body	4.98	.941	133
								Reports to Individual	4.97	.984	33
						Multicampus	Multicampus	Total	4.99	.937	172
								Reports to Governing body	5.80	.447	5
								Reports to Individual	4.87	.925	87
Total	Total	Reports to Individual				4.99	1.029	102			
		Total	4.96	.981	194						
		Total	5.50	.522	12						
Total	Total	Reports to Governing body	4.94	.932	221						
		Reports to Individual	4.99	1.015	135						
		Total	4.97	.956	368						
Vice President or Executive Dean Model			Reports to Governing body	4.38	1.188	8					
			Reports to Individual	5.40	.548	5					
			Total	4.77	1.092	13					
			Multicampus	Multicampus	Reports to Governing body	5.18	.405	11			
					Reports to Individual	5.38	.518	8			
					Total	5.26	.452	19			

Descriptive Statistics

	Organizational Structure	Governance Structure	Decision-making	Mean	Std. Deviation	N			
Planning, controlling, and/or making decisions regarding budget and finance	Vice President or Executive Dean Model	Total	Reports to Governing body	4.84	.898	19			
			Reports to Individual	5.38	.506	13			
			Total	5.06	.801	32			
	Provost Model	Single (stand-alone)	Single (stand-alone)	Reports to Governing body	3.00	.	1		
				Total	3.00	.	1		
		Multicampus	Multicampus	Multicampus	Reports to Governing body	6.00	.000	2	
					Total	6.00	.	1	
			Total	Total	Total	Reports to Governing body	5.33	.778	12
						Reports to Individual	5.47	.743	15
						Total	6.00	.000	2
						Reports to Governing body	4.50	2.121	2
		Reports to Individual	5.33	.778	12				
		Total	5.31	.946	16				
	Instructional Dean Model	Single (stand-alone)	Single (stand-alone)	Reports to Governing body	5.50	.577	4		
				Total	5.50	.577	4		
		Multicampus	Multicampus	Multicampus	Reports to Governing body	4.33	2.887	3	
					Total	5.00	.000	4	
			Total	Total	Total	Reports to Individual	4.71	1.704	7
						Reports to Governing body	5.00	1.826	7
						Reports to Individual	5.00	.000	4
	Total	5.00	1.414	11					
	Department Head Model	Single (stand-alone)	Single (stand-alone)	Reports to Governing body	5.00	.	1		
				Reports to Individual	6.00	.	1		
				Total	5.50	.707	2		
		Multicampus	Multicampus	Multicampus	Reports to Governing body	4.67	.577	3	
					Total	4.67	.577	3	
			Total	Total	Total	Reports to Governing body	4.75	.500	4
Reports to Individual						6.00	.	1	
Total	5.00	.707	5						
Total	Total	Total	Reports to Governing body	5.00	.000	2			
			Reports to Individual	5.00	.	1			
			Total	5.00	.000	3			
	Single (stand-alone)	Single (stand-alone)	Single (stand-alone)	Reports to Governing body	5.33	.516	6		
				Reports to Individual	4.95	.960	148		
				Total	5.05	.944	39		
		Multicampus	Multicampus	Multicampus	Reports to Individual	4.98	.946	193	
					Reports to Governing body	5.86	.378	7	
					Total	4.90	.960	105	
	Total	Total	Total	Reports to Individual	5.05	.963	129		
				Reports to Governing body	5.01	.962	241		
				Total	5.53	.516	15		
				Reports to Governing body	4.93	.957	254		
Reports to Individual	5.05	.956	168						
Total	5.00	.951	437						
Researching, developing, and implementing short and long range institutional plans	Single (stand-alone)	Single (stand-alone)	Reports to Governing body	4.00	.	1			
			Total	4.00	.	1			
	Multicampus	Multicampus	Multicampus	Reports to Governing body	5.00	.	1		
				Total	5.00	.	1		
		Total	Total	Total	Reports to Individual	5.33	.577	3	
					Total	5.33	.577	3	

Descriptive Statistics

	Organizational Structure	Governance Structure	Decision-making	Mean	Std. Deviation	N	
Researching, developing, and implementing short and long range institutional plans	Total			4.00	.	1	
			Reports to Governing body	5.00	.	1	
			Reports to Individual	5.33	.577	3	
			Total	5.00	.707	5	
	Conventional Model	Total			4.00	.	1
				Reports to Governing body	5.00	.	1
				Total	4.50	.707	2
					4.33	1.033	6
		Single (stand-alone)		Reports to Governing body	4.71	.926	133
				Reports to Individual	4.61	.966	33
				Total	4.68	.935	172
					5.00	.707	5
		Multicampus		Reports to Governing body	4.74	1.062	87
				Reports to Individual	4.78	.951	102
				Total	4.77	.994	194
					4.58	.900	12
	Total		Reports to Governing body	4.72	.977	221	
			Reports to Individual	4.74	.954	135	
			Total	4.73	.964	368	
				3.88	.991	8	
	Vice President or Executive Dean Model	Single (stand-alone)		Reports to Governing body	5.40	.548	5
				Reports to Individual	4.46	1.127	13
				Total	4.64	1.362	11
		Multicampus		Reports to Governing body	5.25	.707	8
				Reports to Individual	4.89	1.150	19
				Total	4.32	1.250	19
	Total		Reports to Governing body	5.31	.630	13	
			Reports to Individual	4.72	1.143	32	
			Total	4.00	.	1	
	Provost Model	Single (stand-alone)		Reports to Governing body	4.00	.	1
				Total	4.00	.	1
		Multicampus		Reports to Governing body	5.00	.000	2
				Reports to Individual	4.00	.	1
			Reports to Individual	4.75	.622	12	
			Total	4.73	.594	15	
Total		Reports to Governing body	5.00	.000	2		
		Reports to Individual	4.75	.622	12		
Total		Total	4.69	.602	16		
	Instructional Dean Model	Single (stand-alone)		Reports to Governing body	5.50	1.000	4
			Total	5.50	1.000	4	
Multicampus			Reports to Governing body	4.00	1.000	3	
			Reports to Individual	4.50	.577	4	
Total		Total	4.29	.756	7		
		Reports to Governing body	4.86	1.215	7		
Total		Reports to Individual	4.50	.577	4		
		Total	4.73	1.009	11		
Department Head Model	Single (stand-alone)		Reports to Governing body	5.00	.	1	
			Reports to Individual	5.00	.	1	
			Total	5.00	.000	2	
	Multicampus		Reports to Governing body	4.00	.000	3	
			Total	4.00	.000	3	
			Total	4.00	.000	3	

Descriptive Statistics

	Organizational Structure	Governance Structure	Decision-making	Mean	Std. Deviation	N		
Researching, developing, and implementing short and long range institutional plans	Department Head Model	Total	Reports to Governing body	4.25	.500	4		
			Reports to Individual	5.00	.	1		
			Total	4.40	.548	5		
	Total	Single (stand-alone)	Total	Reports to Governing body	4.00	.000	2	
				Reports to Individual	5.00	.	1	
				Total	4.33	.577	3	
		Single (stand-alone)	Total	Reports to Governing body	4.33	1.033	6	
				Reports to Individual	4.69	.947	148	
				Total	4.72	.944	39	
		Multicampus	Total	Reports to Individual	4.68	.946	193	
				Reports to Governing body	5.00	.577	7	
				Reports to Individual	4.68	1.079	105	
		Total	Total	Reports to Individual	4.81	.899	129	
				Reports to Governing body	4.76	.975	241	
				Total	4.60	.828	15	
		Understanding legal issues and dealing with legal concerns	Conventional Model	Total	Reports to Governing body	4.69	1.000	254
					Reports to Individual	4.79	.908	168
					Total	4.72	.960	437
	Total		Single (stand-alone)	Total	Reports to Individual	5.00	.	1
Reports to Governing body					5.00	.	1	
Total					4.00	.	1	
Single (stand-alone)			Total	Reports to Individual	4.00	.	1	
				Reports to Governing body	4.00	.	1	
				Total	5.00	.000	3	
Multicampus			Total	Reports to Individual	5.00	.000	3	
				Reports to Governing body	5.00	.000	3	
				Total	5.00	.	1	
Total			Total	Reports to Individual	4.00	.	1	
				Reports to Governing body	5.00	.000	3	
				Total	4.80	.447	5	
Vice President or Executive Dean Model		Conventional Model	Total	Reports to Governing body	6.00	.	1	
				Reports to Individual	5.00	.	1	
				Total	5.50	.707	2	
	Total	Single (stand-alone)	Total	Reports to Individual	4.33	.816	6	
				Reports to Governing body	4.25	1.196	133	
				Total	4.03	1.237	33	
		Single (stand-alone)	Total	Reports to Individual	4.21	1.191	172	
				Reports to Governing body	5.40	.894	5	
				Reports to Individual	4.41	1.052	87	
		Multicampus	Total	Reports to Individual	3.97	1.181	102	
				Reports to Governing body	4.21	1.151	194	
				Total	4.92	.996	12	
		Total	Total	Reports to Individual	4.32	1.140	221	
				Reports to Governing body	3.99	1.191	135	
				Total	4.21	1.170	368	
Vice President or Executive Dean Model		Single (stand-alone)	Total	Reports to Individual	4.25	1.282	8	
				Reports to Governing body	5.40	.548	5	
				Total	4.69	1.182	13	
	Multicampus	Total	Reports to Individual	4.45	1.036	11		
			Reports to Governing body	4.63	1.188	8		
			Total	4.53	1.073	19		
	Total	Total	Reports to Individual	4.37	1.116	19		
			Reports to Governing body	4.92	1.038	13		
			Total	4.59	1.103	32		

Descriptive Statistics

	Organizational Structure	Governance Structure	Decision-making	Mean	Std. Deviation	N	
Understanding legal issues and dealing with legal concerns	Provost Model	Single (stand-alone)	Reports to Governing body	4.00	.	1	
			Total	4.00	.	1	
			Multicampus	Reports to Governing body	3.00	1.414	2
		Reports to Individual		4.08	.996	12	
		Total		3.93	1.033	15	
		Instructional Dean Model	Single (stand-alone)	Reports to Governing body	5.00	.816	4
	Total			5.00	.816	4	
	Multicampus			Reports to Governing body	4.00	1.000	3
			Reports to Individual	3.25	.500	4	
			Total	3.57	.787	7	
	Department Head Model		Single (stand-alone)	Reports to Governing body	4.00	.	1
		Reports to Individual		6.00	.	1	
		Total		5.00	1.414	2	
		Total	Reports to Governing body	5.00	1.732	3	
			Reports to Individual	5.00	1.732	3	
			Total	4.75	1.500	4	
	Identifying institutional problems and and developing creative solutions	Total	Single (stand-alone)	Reports to Governing body	6.00	.	1
				Reports to Individual	5.00	1.414	5
				Total	5.50	.707	2
			Multicampus	Reports to Governing body	5.00	.	1
Reports to Individual				5.33	.577	3	
Total				4.33	.816	6	
Single (stand-alone)		Single (stand-alone)	Reports to Governing body	4.26	1.180	148	
			Reports to Individual	4.26	1.272	39	
			Total	4.26	1.185	193	
		Multicampus	Reports to Governing body	4.71	1.496	7	
			Reports to Individual	4.42	1.054	105	
			Total	4.02	1.156	129	
Multicampus		Multicampus	Reports to Individual	4.22	1.138	241	
			Total	4.67	1.175	15	
			Reports to Governing body	4.33	1.129	254	
		Total	Reports to Individual	4.08	1.184	168	
			Total	4.24	1.158	437	
			Reports to Governing body	5.00	.	1	
Single (stand-alone)		Single (stand-alone)	Total	5.00	.	1	
			Reports to Governing body	6.00	.	1	
	Total		6.00	.	1		
	Multicampus	Reports to Individual	5.33	.577	3		
		Total	5.33	.577	3		
		Total	5.00	.	1		
Total	Total	Reports to Governing body	6.00	.	1		
		Reports to Individual	5.33	.577	3		
		Total	5.40	.548	5		

Descriptive Statistics

Identifying institutional problems and and developing creative solutions	Organizational Structure	Governance Structure	Decision-making	Mean	Std. Deviation	N	
	Conventional Model		Reports to Governing body	5.00	.	1	
			Total	5.50	.707	2	
			Single (stand-alone)	5.00	1.265	6	
				Reports to Governing body	4.83	.942	133
				Reports to Individual	4.82	.769	33
				Total	4.83	.916	172
		Multicampus		Reports to Governing body	5.20	.837	5
				Reports to Individual	4.90	.989	87
				Total	5.01	.960	102
		Total		Total	4.96	.966	194
				Reports to Governing body	5.17	1.030	12
				Reports to Individual	4.86	.957	221
	Vice President or Executive Dean Model	Single (stand-alone)	Reports to Governing body	4.63	1.188	8	
			Reports to Individual	5.20	.837	5	
			Total	4.85	1.068	13	
	Multicampus		Reports to Governing body	4.82	.751	11	
			Reports to Individual	5.00	1.069	8	
			Total	4.89	.875	19	
	Total		Reports to Governing body	4.74	.933	19	
			Reports to Individual	5.08	.954	13	
			Total	4.87	.942	32	
	Provost Model	Single (stand-alone)	Reports to Governing body	5.00	.	1	
			Total	5.00	.	1	
			Multicampus	5.50	.707	2	
			Reports to Governing body	5.00	.	1	
			Reports to Individual	5.08	.793	12	
			Total	5.13	.743	15	
Total		Total	5.50	.707	2		
		Reports to Governing body	5.00	.000	2		
		Reports to Individual	5.08	.793	12		
Instructional Dean Model	Single (stand-alone)	Reports to Governing body	5.00	.816	4		
		Total	5.00	.816	4		
		Multicampus	3.67	2.517	3		
			Reports to Governing body	6.00	.000	4	
			Reports to Individual	5.00	1.915	7	
			Total	4.43	1.718	7	
Total		Reports to Governing body	6.00	.000	4		
		Reports to Individual	5.00	1.549	11		
		Total	5.00	1.549	11		
Department Head Model	Single (stand-alone)	Reports to Governing body	4.00	.	1		
		Reports to Individual	5.00	.	1		
		Total	4.50	.707	2		
	Multicampus		Reports to Governing body	5.33	.577	3	
			Total	5.33	.577	3	
			Total	5.00	.816	4	
		Reports to Governing body	5.00	.	1		
		Reports to Individual	5.00	.	1		
		Total	5.00	.707	5		

Descriptive Statistics

	Organizational Structure	Governance Structure	Decision-making	Mean	Std. Deviation	N
Identifying institutional problems and and developing creative solutions	Total			5.50	.707	2
			Reports to Governing body	5.00	.	1
			Total	5.33	.577	3
	Single (stand-alone)			5.00	1.265	6
			Reports to Governing body	4.82	.946	148
			Reports to individual	4.87	.767	39
	Multicampus			4.84	.919	193
			Reports to Governing body	5.29	.756	7
			Reports to individual	4.87	1.020	105
	Total			5.05	.938	129
			Total	4.98	.972	241
			Reports to Governing body	5.20	.941	15
	Gathering, analyzing, and interpreting information for purposes of making informed decisions	Total			4.84	.973
			Reports to individual	5.01	.902	168
			Total	4.92	.948	437
Single (stand-alone)				5.00	.	1
			Reports to Governing body	5.00	.	1
			Total	6.00	.	1
Multicampus				6.00	.	1
			Reports to individual	5.67	.577	3
			Total	5.67	.577	3
Total				5.00	.	1
			Reports to Governing body	6.00	.	1
			Reports to individual	5.67	.577	3
Conventional Model		Total			5.60	.548
			Reports to Governing body	5.00	.	1
			Total	5.00	.	1
	Single (stand-alone)			5.00	.000	2
			Reports to Governing body	5.50	.548	6
			Reports to individual	4.89	1.042	133
	Multicampus			4.88	.992	33
			Reports to individual	4.91	1.022	172
			Total	5.40	.548	5
	Total			4.78	1.083	87
			Reports to individual	5.21	.813	102
			Total	5.02	.960	194
	Vice President or Executive Dean Model	Total			5.42	.515
			Reports to Governing body	4.85	1.055	221
			Reports to individual	5.13	.868	135
Single (stand-alone)				4.97	.987	368
			Reports to Governing body	4.13	.835	8
			Reports to individual	5.40	.548	5
Multicampus				4.62	.951	13
			Reports to Governing body	4.91	1.221	11
			Reports to individual	5.25	.707	8
Total				5.05	1.026	19
			Reports to Governing body	4.58	1.121	19
			Reports to individual	5.31	.630	13
Provost Model				4.88	1.008	32
	Single (stand-alone)			4.00	.	1
			Reports to Governing body	4.00	.	1
		Total	4.00	.	1	

Descriptive Statistics

	Organizational Structure	Governance Structure	Decision-making	Mean	Std. Deviation	N
Gathering, analyzing, and interpreting information for purposes of making informed decisions	Provost Model	Multicampus	Reports to Governing body	5.50	.707	2
			Reports to Individual	4.00	.	1
			Total	5.17	.937	12
		Total	Reports to Governing body	5.13	.915	15
			Reports to Individual	5.50	.707	2
			Total	4.00	.000	2
	Instructional Dean Model	Single (stand-alone)	Reports to Governing body	5.17	.937	12
			Reports to Individual	5.06	.929	16
			Total	4.25	1.258	4
		Multicampus	Reports to Governing body	4.25	1.258	4
			Reports to Individual	3.67	2.309	3
			Total	5.50	.577	4
	Department Head Model	Single (stand-alone)	Reports to Governing body	4.71	1.704	7
			Reports to Individual	4.00	1.633	7
			Total	5.50	.577	4
		Multicampus	Reports to Governing body	4.55	1.508	11
			Reports to Individual	5.00	.	1
			Total	5.00	.000	2
	Total	Single (stand-alone)	Reports to Governing body	5.67	.577	3
			Reports to Individual	5.67	.577	3
Total			5.50	.577	4	
Multicampus		Reports to Governing body	5.00	.	1	
		Reports to Individual	5.40	.548	5	
		Total	5.00	.000	2	
Single (stand-alone)		Reports to Governing body	5.00	.	1	
		Reports to Individual	5.00	.000	3	
		Total	5.50	.548	6	
		Multicampus	Reports to Governing body	4.83	1.046	148
			Reports to Individual	4.95	.944	39
			Total	4.88	1.018	193
Total		Reports to Governing body	5.43	.535	7	
		Reports to Individual	4.78	1.135	105	
		Total	5.22	.803	129	
Total	Single (stand-alone)	Reports to Individual	5.04	.980	241	
		Total	5.40	.507	15	
		Reports to Governing body	4.81	1.080	254	
	Multicampus	Reports to Individual	5.16	.843	168	
		Total	4.97	.996	437	
		Total	4.00	.	1	
Assessing cross-cultural differences and promoting diversity	Single (stand-alone)	Total	4.00	.	1	
		Reports to Governing body	6.00	.	1	
	Multicampus	Reports to Individual	6.00	.	1	
		Total	5.00	.000	3	
	Total	Reports to Individual	5.00	.000	3	
		Total	4.00	.	1	
	Total	Reports to Governing body	6.00	.	1	
		Reports to Individual	5.00	.000	3	
		Total	5.00	.707	5	

Descriptive Statistics

	Organizational Structure	Governance Structure	Decision-making	Mean	Std. Deviation	N		
Assessing cross-cultural differences and promoting diversity	Conventional Model		Reports to Governing body	3.00	.	1		
			Total	3.00	.000	2		
			Single (stand-alone)	Reports to Governing body	3.33	1.633	6	
		Reports to Individual		3.83	1.074	133		
		Total		3.97	.918	33		
		Multicampus	Reports to Governing body	3.84	1.067	172		
			Reports to Individual	5.40	.894	5		
			Total	3.89	1.176	87		
		Total	Reports to Governing body	4.25	1.200	102		
			Reports to Individual	4.12	1.209	194		
			Total	4.17	1.642	12		
		Vice President or Executive Dean Model	Single (stand-alone)	Reports to Governing body	3.85	1.112	221	
				Reports to Individual	4.19	1.141	135	
				Total	3.98	1.151	368	
				Multicampus	Reports to Governing body	3.63	1.061	8
					Reports to Individual	4.80	.837	5
					Total	4.08	1.115	13
			Total	Reports to Governing body	4.55	1.036	11	
				Reports to Individual	4.25	.707	8	
				Total	4.42	.902	19	
			Provost Model	Single (stand-alone)	Reports to Governing body	4.16	1.119	19
Reports to Individual	4.46				.776	13		
Total	4.28				.991	32		
Multicampus	Reports to Governing body	3.00			.	1		
	Reports to Individual	3.00			.	1		
	Total	4.50			.707	2		
Total	Reports to Governing body	4.00		.	1			
	Reports to Individual	4.33		.888	12			
	Total	4.33		.816	15			
Instructional Dean Model	Single (stand-alone)	Reports to Governing body		4.50	.707	2		
		Reports to Individual		3.50	.707	2		
		Total		4.33	.888	12		
		Multicampus	Reports to Governing body	4.25	.856	16		
			Reports to Individual	3.00	1.414	4		
			Total	3.00	1.414	4		
	Total	Reports to Governing body	2.67	1.528	3			
		Reports to Individual	4.00	.816	4			
		Total	3.43	1.272	7			
	Department Head Model	Single (stand-alone)	Reports to Governing body	2.86	1.345	7		
			Reports to Individual	4.00	.816	4		
			Total	3.27	1.272	11		
Multicampus			Reports to Governing body	3.00	.	1		
			Reports to Individual	4.00	.	1		
			Total	3.50	.707	2		
Total		Reports to Governing body	3.33	.577	3			
		Reports to Individual	3.33	.577	3			
		Total	3.25	.500	4			
Total		Reports to Governing body	4.00	.	1			
		Reports to Individual	3.40	.548	5			
		Total						

Descriptive Statistics

	Organizational Structure	Governance Structure	Decision-making	Mean	Std. Deviation	N
Assessing cross-cultural differences and promoting diversity	Total			3.50	.707	2
			Reports to Governing body	3.00	-	1
			Total	3.33	.577	3
	Single (stand-alone)			3.33	1.633	6
			Reports to Governing body	3.80	1.092	148
			Reports to individual	4.08	.929	39
	Multicampus			3.84	1.083	193
			Reports to Governing body	5.14	.900	7
			Reports to individual	3.90	1.181	105
	Total			4.27	1.123	129
			Total	4.14	1.166	241
			Reports to Governing body	4.20	1.474	15
	Designing motivating jobs, clarifying lines of authority, and supervision of direct reports	Total			3.84	1.128
			Reports to individual	4.23	1.082	168
			Total	4.00	1.136	437
Single (stand-alone)				5.00	-	1
			Reports to Governing body	5.00	-	1
			Total	2.00	-	1
Multicampus				2.00	-	1
			Reports to individual	4.67	.577	3
			Total	4.67	.577	3
Total				5.00	-	1
			Reports to Governing body	2.00	-	1
			Reports to individual	4.67	.577	3
Conventional Model				4.20	1.304	5
	Single (stand-alone)			5.00	-	1
			Reports to Governing body	3.00	-	1
			Total	4.00	1.414	2
	Multicampus			3.83	1.472	6
			Reports to Governing body	3.89	1.024	133
			Reports to individual	3.45	.971	33
	Total			3.81	1.039	172
			Reports to Governing body	5.20	.447	5
			Reports to individual	3.74	1.262	87
	Total			4.06	1.106	102
			Total	3.94	1.192	194
			Reports to Governing body	4.50	1.243	12
Vice President or Executive Dean Model			3.83	1.123	221	
	Single (stand-alone)			3.91	1.103	135
			Reports to individual	3.88	1.123	368
			Reports to Governing body	3.87	1.246	8
	Multicampus			5.00	1.000	5
			Reports to individual	4.31	1.251	13
			Total	4.31	1.251	13
	Total			3.82	.982	11
			Reports to Governing body	4.25	1.282	8
			Reports to individual	4.00	1.106	19
	Total			3.84	1.068	19
			Reports to Governing body	4.54	1.198	13
			Reports to individual	4.13	1.157	32
Provost Model	Single (stand-alone)			5.00	-	1
			Reports to Governing body	5.00	-	1
			Total	5.00	-	1

Descriptive Statistics

	Organizational Structure	Governance Structure	Decision-making	Mean	Std. Deviation	N
Designing motivating jobs, clarifying lines of authority, and supervision of direct reports	Provost Model	Multicampus		4.00	1.414	2
			Reports to Governing body	4.00	.	1
			Reports to Individual	4.00	1.126	12
		Total	4.00	1.069	15	
		Total		4.00	1.414	2
			Reports to Governing body	4.50	.707	2
	Reports to Individual		4.00	1.126	12	
	Instructional Dean Model	Single (stand-alone)		4.00	1.155	4
			Total	4.00	1.155	4
			Multicampus	Reports to Governing body	2.67	1.528
		Reports to Individual		3.25	.500	4
		Total		3.00	1.000	7
		Total		3.43	1.397	7
	Reports to Governing body		3.25	.500	4	
	Reports to Individual		3.36	1.120	11	
	Department Head Model	Single (stand-alone)		2.00	.	1
			Reports to Governing body	5.00	.	1
			Reports to Individual	3.50	2.121	2
		Multicampus	Reports to Governing body	4.00	1.732	3
			Total	4.00	1.732	3
Total				3.50	1.732	4
	Reports to Governing body	5.00	.	1		
	Reports to Individual	3.80	1.643	5		
Total			5.00	.000	2	
		Reports to Governing body	3.00	.	1	
		Total	4.33	1.155	3	
	Single (stand-alone)		3.83	1.472	6	
		Reports to Governing body	3.88	1.049	148	
		Reports to Individual	3.69	1.104	39	
		Total	3.84	1.070	193	
		Multicampus	Reports to Governing body	4.86	.900	7
			Reports to Individual	3.72	1.244	105
	Total		4.05	1.099	129	
	Total		3.93	1.178	241	
		Reports to Governing body	4.47	1.187	15	
		Reports to Individual	3.81	1.133	254	
	Assuming leadership role in curriculum development, student learning and assessment			3.00	.	1
			Total	3.00	.	1
Single (stand-alone)			Reports to Governing body	4.00	.	1
		Total	4.00	.	1	
		Multicampus	Reports to Individual	4.00	1.000	3
Total			4.00	1.000	3	
Total				3.00	.	1
		Reports to Governing body	4.00	.	1	
		Reports to Individual	4.00	1.000	3	
Total		3.80	.837	5		

Descriptive Statistics

	Organizational Structure	Governance Structure	Decision-making	Mean	Std. Deviation	N	
Assuming leadership role in curriculum development, student learning and assessment	Conventional Model		Reports to Governing body	4.00	.	1	
			Total	4.00	.000	2	
			Single (stand-alone)	3.67	.816	6	
			Single (stand-alone)	Reports to Governing body	3.24	1.024	133
				Reports to individual	3.27	1.206	33
				Total	3.26	1.052	172
			Multicampus	Reports to Governing body	4.20	1.304	5
				Reports to individual	3.25	1.091	87
				Total	3.45	.991	102
		Total		Reports to Governing body	3.38	1.052	194
				Reports to individual	3.92	.996	12
				Total	3.25	1.047	221
	Vice President or Executive Dean Model	Single (stand-alone)	Reports to Governing body	3.41	1.046	135	
			Reports to individual	3.33	1.051	368	
			Total	2.75	1.165	8	
		Multicampus	Reports to Governing body	4.40	.894	5	
			Reports to individual	3.38	1.325	13	
			Total	3.18	1.328	11	
		Total		Reports to Governing body	3.75	.886	8
				Reports to individual	3.42	1.170	19
				Total	3.00	1.247	19
		Provost Model	Single (stand-alone)	Reports to Governing body	4.00	.913	13
				Reports to individual	3.41	1.214	32
Total				4.00	.	1	
Multicampus	Reports to Governing body		4.00	.	1		
	Reports to individual		3.50	2.121	2		
	Total		3.92	.900	12		
Total			Reports to Governing body	3.87	.990	15	
			Reports to individual	3.50	2.121	2	
			Total	4.00	.000	2	
Instructional Dean Model	Single (stand-alone)		Reports to Governing body	3.92	.900	12	
			Reports to individual	3.88	.957	16	
			Total	3.75	.957	4	
	Multicampus	Reports to Governing body	3.75	.957	4		
		Reports to individual	2.33	1.528	3		
		Total	4.50	1.000	4		
	Total		Reports to Governing body	3.57	1.618	7	
			Reports to individual	3.14	1.345	7	
			Total	4.50	1.000	4	
	Department Head Model	Single (stand-alone)	Reports to Governing body	3.64	1.362	11	
			Reports to individual	2.00	.	1	
			Total	4.00	.	1	
Multicampus		Reports to Governing body	3.00	1.414	2		
		Reports to individual	3.33	.577	3		
		Total	3.33	.577	3		
Total			Reports to Governing body	3.00	.816	4	
			Reports to individual	4.00	.	1	
			Total	3.20	.837	5	

Descriptive Statistics

	Organizational Structure	Governance Structure	Decision-making	Mean	Std. Deviation	N	
Assuming leadership role in curriculum development, student learning and assessment	Total			3.50	.707	2	
			Reports to Governing body	4.00	-	1	
			Total	3.67	.577	3	
	Single (stand-alone)			3.67	.816	6	
			Reports to Governing body	3.23	1.031	148	
			Reports to individual	3.44	1.209	39	
	Multicampus			3.28	1.064	193	
			Reports to Governing body	4.00	1.414	7	
			Reports to individual	3.23	1.112	105	
	Total			3.56	.991	129	
			Reports to individual	3.43	1.070	241	
			Total	3.80	1.082	15	
	Motivating and inspiring the institutional management team	Total			3.23	1.062	254
				Reports to Governing body	3.53	1.044	168
				Reports to individual	3.37	1.066	437
Single (stand-alone)				5.00	-	1	
			Reports to Governing body	5.00	-	1	
			Total	6.00	-	1	
Multicampus				6.00	-	1	
			Reports to individual	5.00	.000	3	
			Total	5.00	.000	3	
Total				5.00	-	1	
			Reports to Governing body	6.00	-	1	
			Reports to individual	5.00	.000	3	
Conventional Model		Total			5.20	.447	5
				Reports to Governing body	6.00	-	1
				Total	5.00	-	1
	Single (stand-alone)			5.50	.707	2	
			Reports to Governing body	4.83	.753	6	
			Reports to individual	5.03	.929	133	
	Multicampus			5.21	.820	33	
			Reports to individual	5.06	.903	172	
			Total	5.40	.894	5	
	Total			5.21	.990	87	
			Reports to individual	5.23	.819	102	
			Total	5.22	.898	194	
	Vice President or Executive Dean Model	Total			5.17	.835	12
				Reports to Governing body	5.10	.953	221
				Reports to individual	5.22	.816	135
Single (stand-alone)				5.15	.901	368	
			Reports to Governing body	4.75	1.035	8	
			Reports to individual	5.00	.707	5	
Multicampus				4.85	.899	13	
			Reports to Governing body	5.00	1.612	11	
			Reports to individual	4.75	.886	8	
Total				4.89	1.329	19	
			Reports to Governing body	4.89	1.370	19	
			Reports to individual	4.85	.801	13	
Provost Model				4.88	1.157	32	
		Single (stand-alone)			6.00	-	1
				Reports to Governing body	6.00	-	1
	Total		6.00	-	1		

Descriptive Statistics

	Organizational Structure	Governance Structure	Decision-making	Mean	Std. Deviation	N	
Motivating and inspiring the Institutional management team	Provost Model	Multicampus	Reports to Governing body	5.00	1.414	2	
			Reports to Individual	6.00	.	1	
			Total	5.17	.389	12	
		Total	Reports to Governing body	5.20	.561	15	
			Reports to Individual	5.00	1.414	2	
			Total	6.00	.000	2	
	Instructional Dean Model	Single (stand-alone)	Reports to Governing body	5.17	.389	12	
			Reports to Individual	5.25	.577	16	
			Total	5.50	.577	4	
		Multicampus	Reports to Governing body	5.50	.577	4	
			Reports to Individual	3.67	2.309	3	
			Total	5.00	.816	4	
	Department Head Model	Single (stand-alone)	Reports to Governing body	4.43	1.618	7	
			Reports to Individual	4.71	1.704	7	
			Total	5.00	.816	4	
		Multicampus	Reports to Governing body	4.82	1.401	11	
			Reports to Individual	5.00	.	1	
			Total	5.00	.000	2	
	Participating in personnel selection processes	Total	Single (stand-alone)	Reports to Governing body	5.67	.577	3
				Reports to Individual	5.67	.577	3
Total				5.50	.577	4	
Multicampus			Reports to Governing body	5.00	.	1	
			Reports to Individual	5.40	.548	5	
			Total	5.50	.707	2	
Total		Single (stand-alone)	Reports to Governing body	5.00	.	1	
			Reports to Individual	5.33	.577	3	
			Total	4.83	.753	6	
		Multicampus	Reports to Governing body	5.04	.925	148	
			Reports to Individual	5.18	.790	39	
			Total	5.06	.893	193	
Total		Single (stand-alone)	Reports to Governing body	5.29	.951	7	
			Reports to Individual	5.16	1.119	105	
			Total	5.18	.785	129	
		Multicampus	Reports to Governing body	5.17	.946	241	
			Reports to Individual	5.13	.834	15	
			Total	5.09	1.008	254	
Total		Single (stand-alone)	Reports to Governing body	5.18	.784	168	
			Reports to Individual	5.13	.921	437	
	Total		3.00	.	1		
	Total	Single (stand-alone)	Reports to Governing body	3.00	.	1	
			Reports to Individual	5.00	.	1	
			Total	5.00	.000	3	
Multicampus		Reports to Individual	5.00	.000	3		
		Reports to Individual	5.00	.000	3		
		Total	3.00	.	1		
Total	Single (stand-alone)	Reports to Governing body	5.00	.	1		
		Reports to Individual	5.00	.000	3		
		Total	4.60	.894	5		

Descriptive Statistics

	Organizational Structure	Governance Structure	Decision-making	Mean	Std. Deviation	N	
Participating in personnel selection processes	Conventional Model		Reports to Governing body	4.00	.	1	
			Total	4.00	.000	2	
			Single (stand-alone)	Reports to Governing body	3.50	1.378	6
			Reports to Individual	4.39	1.116	33	
			Total	3.99	1.194	172	
			Multicampus	Reports to Governing body	5.40	.894	5
			Reports to Individual	3.86	1.296	87	
			Total	4.59	1.155	102	
			Total	4.28	1.274	194	
		Vice President or Executive Dean Model	Single (stand-alone)	Reports to Governing body	4.33	1.435	12
				Reports to Individual	3.89	1.227	221
				Total	4.54	1.145	135
			Multicampus	Reports to Governing body	4.14	1.241	368
				Reports to Individual	3.13	1.356	8
				Total	4.60	.548	5
			Total	Reports to Individual	3.69	1.316	13
				Reports to Governing body	3.18	1.168	11
				Total	4.38	1.188	8
			Total	Reports to Individual	3.68	1.293	19
				Reports to Governing body	3.16	1.214	19
Reports to Individual	4.46			.967	13		
Total	Reports to Individual	3.69	1.281	32			
	Reports to Governing body	5.00	.	1			
	Total	5.00	.	1			
Provost Model	Single (stand-alone)	Reports to Governing body	4.50	.707	2		
		Reports to Individual	4.00	.	1		
		Total	4.58	.996	12		
	Multicampus	Reports to Individual	4.53	.915	15		
		Reports to Governing body	4.50	.707	2		
		Total	4.50	.707	2		
Total	Reports to Individual	4.58	.996	12			
	Reports to Individual	4.56	.892	16			
	Reports to Governing body	4.50	.577	4			
Instructional Dean Model	Single (stand-alone)	Reports to Individual	4.50	.577	4		
		Reports to Governing body	4.50	.577	4		
		Total	3.33	1.528	3		
	Multicampus	Reports to Individual	4.75	.957	4		
		Reports to Governing body	4.14	1.345	7		
		Total	4.00	1.155	7		
Total	Reports to Individual	4.75	.957	4			
	Reports to Individual	4.27	1.104	11			
	Reports to Governing body	3.00	.	1			
Department Head Model	Single (stand-alone)	Reports to Individual	6.00	.	1		
		Reports to Governing body	4.50	2.121	2		
		Total	3.33	1.155	3		
	Multicampus	Reports to Individual	3.33	1.155	3		
		Reports to Governing body	3.25	.957	4		
		Total	6.00	.	1		
Total	Reports to Individual	3.80	1.483	5			
	Reports to Individual	6.00	.	1			
	Total	3.80	1.483	5			

Descriptive Statistics

	Organizational Structure	Governance Structure	Decision-making	Mean	Std. Deviation	N	
Participating in personnel selection processes	Total			3.50	.707	2	
			Reports to Governing body	4.00	-	1	
			Total	3.67	.577	3	
	Single (stand-alone)			3.50	1.378	6	
			Reports to Governing body	3.89	1.196	148	
			Reports to individual	4.46	1.072	39	
	Multicampus			3.99	1.197	193	
			Reports to Governing body	5.14	.900	7	
			Reports to individual	3.76	1.282	105	
	Total			4.59	1.115	129	
			Reports to Governing body	4.24	1.259	241	
			Reports to individual	4.27	1.335	15	
	Performing personnel appraisals and implementing professional development activities	Total			3.84	1.229	254
				Reports to Governing body	4.56	1.104	168
				Reports to individual	4.13	1.234	437
Single (stand-alone)				3.00	-	1	
			Reports to Governing body	3.00	-	1	
			Reports to individual	5.00	-	1	
Multicampus				5.00	-	1	
			Reports to individual	4.67	.577	3	
			Total	4.67	.577	3	
Total				3.00	-	1	
			Reports to Governing body	5.00	-	1	
			Reports to individual	4.67	.577	3	
Conventional Model		Total			4.40	.894	5
				Reports to Governing body	4.00	-	1
				Reports to individual	4.00	-	1
	Single (stand-alone)			4.00	.000	2	
			Reports to Governing body	3.67	1.211	6	
			Reports to individual	3.54	1.011	133	
	Multicampus			3.82	.917	33	
			Reports to individual	3.60	1.001	172	
			Total	5.00	1.000	5	
	Total			3.43	1.085	87	
			Reports to Governing body	3.88	.968	102	
			Reports to individual	3.71	1.063	194	
	Total			4.25	1.215	12	
			Reports to Governing body	3.50	1.038	221	
			Reports to individual	3.87	.953	135	
Vice President or Executive Dean Model	Total			3.66	1.032	368	
			Reports to Governing body	3.50	.756	8	
			Reports to individual	4.60	.894	5	
	Single (stand-alone)			3.92	.954	13	
			Reports to Governing body	3.64	1.120	11	
			Reports to individual	4.25	1.165	8	
	Multicampus			3.89	1.150	19	
			Reports to Governing body	3.58	.961	19	
			Reports to individual	4.38	1.044	13	
	Total			3.91	1.058	32	
			Reports to Governing body	4.00	-	1	
			Reports to individual	4.00	-	1	
	Provost Model	Single (stand-alone)			4.00	-	1
				Reports to Governing body	4.00	-	1
				Total	4.00	-	1

Descriptive Statistics

	Organizational Structure	Governance Structure	Decision-making	Mean	Std. Deviation	N
Performing personnel appraisals and implementing professional development activities	Provost Model	Multicampus	Total	3.50	2.121	2
			Reports to Governing body	4.00	.	1
			Reports to Individual	4.17	.835	12
			Total	4.07	.961	15
			Total	3.50	2.121	2
	Instructional Dean Model	Single (stand-alone)	Reports to Governing body	4.00	.000	2
			Reports to Individual	4.17	.835	12
			Total	4.06	.929	16
			Reports to Governing body	3.75	1.500	4
			Total	3.75	1.500	4
	Instructional Dean Model	Multicampus	Reports to Governing body	3.33	1.155	3
			Reports to Individual	4.25	.957	4
			Total	3.86	1.069	7
			Reports to Governing body	3.57	1.272	7
			Reports to Individual	4.25	.957	4
	Department Head Model	Single (stand-alone)	Total	3.82	1.168	11
			Reports to Governing body	3.00	.	1
			Reports to Individual	5.00	.	1
			Total	4.00	1.414	2
			Department Head Model	Multicampus	Reports to Governing body	2.33
Total	2.33	1.528			3	
Reports to Governing body	2.50	1.291			4	
Reports to Individual	5.00	.			1	
Total	3.00	1.581			5	
Total	Single (stand-alone)	Total	3.50	.707	2	
		Reports to Governing body	4.00	.	1	
		Total	3.67	.577	3	
		Reports to Governing body	3.67	1.211	6	
		Reports to Individual	3.55	1.005	148	
	Multicampus	Reports to Individual	3.95	.944	39	
		Total	3.64	1.007	193	
		Reports to Governing body	4.57	1.397	7	
		Reports to Individual	3.42	1.099	105	
		Total	3.96	.963	129	
	Total	Total	3.74	1.076	241	
		Reports to Governing body	4.07	1.280	15	
		Reports to Individual	3.50	1.044	254	
		Reports to Individual	3.96	.956	168	
		Total	3.70	1.043	437	
Managing operational and instructional technology	Total	Total	2.00	.	1	
		Total	2.00	.	1	
	Single (stand-alone)	Reports to Governing body	2.00	.	1	
		Total	2.00	.	1	
	Multicampus	Reports to Individual	4.33	1.155	3	
		Total	4.33	1.155	3	
	Total	Total	2.00	.	1	
		Reports to Governing body	2.00	.	1	
		Reports to Individual	4.33	1.155	3	
	Total	Total	3.40	1.517	5	

Descriptive Statistics

Organizational Structure	Governance Structure	Decision-making	Mean	Std. Deviation	N
Managing operational and Instructional technology	Conventional Model	Reports to Governing body	4.00	.	1
		Reports to Governing body	2.00	.	1
		Total	3.00	1.414	2
	Single (stand-alone)	Reports to Governing body	3.17	.983	6
		Reports to Governing body	2.61	1.107	133
		Reports to individual	2.73	.876	33
	Multicampus	Total	2.65	1.063	172
		Reports to Governing body	3.40	1.342	5
		Reports to individual	2.71	1.011	87
	Total	Reports to individual	2.87	1.087	102
		Total	2.81	1.061	194
		Reports to Governing body	3.33	1.073	12
	Vice President or Executive Dean Model	Reports to Governing body	2.65	1.067	221
		Reports to individual	2.84	1.036	135
		Total	2.74	1.063	368
Single (stand-alone)	Reports to Governing body	2.00	.756	8	
	Reports to individual	4.00	.707	5	
	Total	2.77	1.235	13	
	Multicampus	Reports to Governing body	2.27	1.191	11
		Reports to individual	2.87	.991	8
		Total	2.53	1.124	19
Total	Reports to Governing body	2.16	1.015	19	
	Reports to individual	3.31	1.032	13	
	Total	2.63	1.157	32	
Provost Model	Reports to Governing body	2.00	.	1	
	Total	2.00	.	1	
	Multicampus	Reports to Governing body	2.50	.707	2
		Reports to individual	3.00	.	1
		Total	3.42	.793	12
	Total	Total	3.27	.799	15
Reports to Governing body		2.50	.707	2	
Reports to individual		3.42	.793	12	
Instructional Dean Model	Total	3.19	.834	16	
	Single (stand-alone)	Reports to Governing body	2.75	1.708	4
		Total	2.75	1.708	4
		Multicampus	Reports to Governing body	2.33	.577
	Reports to individual		3.00	1.155	4
	Total		2.71	.951	7
Total	Reports to Governing body	2.57	1.272	7	
	Reports to individual	3.00	1.155	4	
	Total	2.73	1.191	11	
Department Head Model	Single (stand-alone)	Reports to Governing body	1.00	.	1
		Reports to individual	3.00	.	1
		Total	2.00	1.414	2
	Multicampus	Reports to Governing body	2.00	1.000	3
		Total	2.00	1.000	3
		Reports to individual	1.75	.957	4
Total	Reports to individual	3.00	.	1	
	Total	2.00	1.000	5	

Descriptive Statistics

	Organizational Structure	Governance Structure	Decision-making	Mean	Std. Deviation	N	
Managing operational and instructional technology	Total			3.00	1.414	2	
			Reports to Governing body	2.00	.	1	
			Total	2.67	1.155	3	
	Single (stand-alone)			3.17	.983	6	
			Reports to Governing body	2.56	1.108	148	
			Reports to individual	2.90	.940	39	
	Multicampus			2.65	1.080	193	
			Reports to Governing body	3.14	1.215	7	
			Reports to individual	2.64	1.020	105	
	Total			2.96	1.078	129	
			Total	2.83	1.066	241	
			Reports to Governing body	3.13	1.060	15	
	Developing partnerships and participating in strategies for community and economic development	Total			2.59	1.070	254
				Reports to individual	2.95	1.045	168
				Total	2.75	1.074	437
Single (stand-alone)				6.00	.	1	
			Total	6.00	.	1	
			Reports to Governing body	5.00	.	1	
Multicampus				5.00	.	1	
			Reports to individual	5.00	1.000	3	
			Total	5.00	1.000	3	
Total				6.00	.	1	
			Reports to Governing body	5.00	.	1	
			Reports to individual	5.00	1.000	3	
Conventional Model				5.20	.837	5	
		Single (stand-alone)			4.00	.	1
				Reports to Governing body	5.00	.	1
			Total	4.50	.707	2	
	Multicampus			5.00	1.095	6	
			Reports to Governing body	5.00	.937	133	
			Reports to individual	5.21	1.053	33	
	Total			5.04	.963	172	
			Reports to individual	5.40	.548	5	
			Reports to Governing body	4.92	1.003	87	
	Total			5.00	1.062	102	
			Total	4.97	1.025	194	
			Reports to Governing body	5.08	.900	12	
	Vice President or Executive Dean Model			4.97	.960	221	
		Single (stand-alone)			5.05	1.060	135
			Reports to individual	5.00	.995	368	
			Total	5.38	.744	8	
Multicampus				4.60	.548	5	
			Reports to individual	5.08	.760	13	
			Total	5.27	.647	11	
Total				4.50	1.414	8	
			Reports to individual	4.95	1.079	19	
			Total	5.32	.671	19	
Provost Model				4.54	1.127	13	
		Single (stand-alone)			5.00	.950	32
				Reports to Governing body	6.00	.	1
			Total	6.00	.	1	

Descriptive Statistics

	Organizational Structure	Governance Structure	Decision-making	Mean	Std. Deviation	N	
Developing partnerships and participating in strategies for community and economic development	Provost Model	Multicampus	Total	4.50	.707	2	
			Reports to Governing body	5.00	-	1	
			Reports to Individual	5.17	1.030	12	
			Total	5.07	.961	15	
			Total	4.50	.707	2	
	Instructional Dean Model	Single (stand-alone)	Reports to Governing body	5.00	.816	4	
			Total	5.00	.816	4	
			Multicampus	Reports to Governing body	3.67	1.528	3
				Reports to Individual	5.00	.816	4
				Total	4.43	1.272	7
	Total	4.43	1.272	7			
	Department Head Model	Single (stand-alone)	Reports to Governing body	5.00	-	1	
			Reports to Individual	5.00	-	1	
			Total	5.00	.000	2	
			Multicampus	Reports to Governing body	3.33	1.528	3
				Total	3.33	1.528	3
	Total	3.75	1.500	4			
	Mediating, negotiating, and resolving institutional conflict	Total	Single (stand-alone)	Reports to Governing body	5.00	-	1
				Reports to Individual	5.00	-	1
				Total	5.00	1.000	3
Multicampus				Reports to Governing body	3.33	1.528	3
				Total	3.33	1.528	3
		Total	3.75	1.500	4		
Single (stand-alone)		Multicampus	Reports to Governing body	5.00	-	1	
			Reports to Individual	5.13	1.005	39	
			Total	5.05	.937	193	
			Multicampus	Reports to Governing body	5.14	.690	7
				Reports to Individual	4.88	1.044	105
Total		4.96		.971	254		
Total		4.96	.971	254			
Total		Multicampus	Reports to Individual	5.02	1.052	168	
			Total	4.99	.999	437	
			Single (stand-alone)	Total	5.00	-	1
				Reports to Governing body	5.00	-	1
				Total	5.00	1.095	6
Total		Multicampus	Reports to Individual	5.03	.918	148	
			Total	5.13	1.005	39	
	Multicampus		Reports to Individual	5.05	.937	193	
			Reports to Governing body	4.88	1.044	105	
			Total	4.94	1.047	241	
Total	5.07	.884	15				
Total	Multicampus	Reports to Individual	4.96	.971	254		
		Total	4.99	.999	437		
		Single (stand-alone)	Reports to Individual	4.33	.577	3	
			Total	4.33	.577	3	
			Total	5.00	-	1	
Total	Multicampus	Reports to Governing body	3.00	-	1		
		Total	3.00	-	1		
		Multicampus	Reports to Individual	4.33	.577	3	
			Total	4.33	.577	3	
			Total	5.00	-	1	
Total	Multicampus	Reports to Governing body	3.00	-	1		
		Reports to Individual	4.33	.577	3		
		Total	4.20	.837	5		

Descriptive Statistics

	Organizational Structure	Governance Structure	Decision-making	Mean	Std. Deviation	N	
Mediating, negotiating, and resolving institutional conflict	Conventional Model		Reports to Governing body	6.00	.	1	
			Reports to Governing body	4.00	.	1	
			Total	5.00	1.414	2	
		Single (stand-alone)		Reports to Governing body	4.17	1.472	6
				Reports to Governing body	3.90	1.248	133
				Reports to individual	3.97	1.185	33
		Multicampus		Total	3.92	1.238	172
				Reports to Governing body	5.60	.548	5
				Reports to individual	4.07	1.169	87
		Total		Reports to individual	4.17	1.298	102
				Total	4.16	1.247	194
				Reports to Governing body	4.92	1.311	12
			Reports to individual	3.97	1.215	221	
			Reports to individual	4.12	1.270	135	
			Total	4.05	1.247	368	
	Vice President or Executive Dean Model	Single (stand-alone)		Reports to Governing body	3.25	1.165	8
				Reports to individual	4.60	.548	5
				Total	3.77	1.166	13
		Multicampus		Reports to Governing body	2.91	1.136	11
				Reports to individual	4.25	1.282	8
				Total	3.47	1.349	19
		Total		Reports to Governing body	3.05	1.129	19
				Reports to individual	4.38	1.044	13
				Total	3.59	1.266	32
Provost Model	Single (stand-alone)		Reports to Governing body	5.00	.	1	
			Reports to Governing body	5.00	.	1	
			Total	5.00	.000	2	
	Multicampus		Reports to Governing body	4.00	.000	2	
			Reports to individual	5.00	.	1	
			Total	4.67	.985	12	
	Total		Total	4.60	.910	15	
			Reports to Governing body	4.00	.000	2	
			Reports to individual	5.00	.000	2	
		Reports to individual	4.67	.985	12		
		Total	4.62	.885	16		
		Reports to individual	4.62	.885	16		
Instructional Dean Model	Single (stand-alone)		Reports to Governing body	4.75	.957	4	
			Reports to Governing body	4.75	.957	4	
			Total	4.75	.957	4	
	Multicampus		Reports to Governing body	2.67	1.528	3	
			Reports to individual	4.75	1.258	4	
			Total	3.86	1.676	7	
	Total		Reports to Governing body	3.86	1.574	7	
			Reports to individual	4.75	1.258	4	
			Total	4.18	1.471	11	
Department Head Model	Single (stand-alone)		Reports to Governing body	3.00	.	1	
			Reports to individual	3.00	.	1	
			Total	3.00	.000	2	
	Multicampus		Reports to Governing body	5.67	.577	3	
			Reports to individual	5.67	.577	3	
			Total	5.67	.577	3	
	Total		Reports to Governing body	5.00	1.414	4	
			Reports to individual	3.00	.	1	
			Total	4.60	1.517	5	

Descriptive Statistics

	Organizational Structure	Governance Structure	Decision-making	Mean	Std. Deviation	N	
Mediating, negotiating, and resolving institutional conflict	Total			5.50	.707	2	
			Reports to Governing body	4.00	-	1	
			Total	5.00	1.000	3	
	Single (stand-alone)			4.17	1.472	6	
			Reports to Governing body	3.89	1.243	148	
			Reports to individual	4.03	1.135	39	
	Multicampus			3.92	1.224	193	
			Reports to Governing body	5.14	.900	7	
			Reports to individual	3.96	1.255	105	
	Total			4.24	1.255	129	
			Total	4.15	1.261	241	
				4.80	1.207	15	
	Engaging in active delegation, balancing empowerment with appropriate feedback	Total			3.92	1.244	254
				Reports to Governing body	4.19	1.226	168
				Total	4.05	1.249	437
Single (stand-alone)				5.00	-	1	
			Total	5.00	-	1	
			Reports to Governing body	3.00	-	1	
Multicampus				3.00	-	1	
			Reports to individual	5.00	.000	3	
			Total	5.00	.000	3	
Total				5.00	-	1	
			Reports to Governing body	3.00	-	1	
			Reports to individual	5.00	.000	3	
Conventional Model		Total			4.60	.894	5
				Reports to Governing body	4.00	-	1
				Total	5.00	-	1
	Single (stand-alone)			4.50	.707	2	
			Reports to Governing body	4.50	1.378	6	
			Reports to individual	4.68	.989	133	
	Multicampus			4.58	1.001	33	
			Reports to individual	4.65	1.000	172	
			Total	5.60	.548	5	
	Total			4.77	1.075	87	
			Reports to Governing body	4.94	.983	102	
			Total	4.88	1.024	194	
	Vice President or Executive Dean Model	Total			4.92	1.165	12
				Reports to Governing body	4.71	1.020	221
				Reports to individual	4.85	.996	135
Single (stand-alone)				4.77	1.016	368	
			Reports to Governing body	4.63	.744	8	
			Reports to individual	4.40	.548	5	
Multicampus				4.54	.660	13	
			Reports to Governing body	5.09	.701	11	
			Reports to individual	5.25	.463	8	
Total				5.16	.602	19	
			Reports to Governing body	4.89	.737	19	
			Reports to individual	4.92	.641	13	
Provost Model				4.91	.689	32	
		Single (stand-alone)			6.00	-	1
				Reports to Governing body	6.00	-	1
	Total		6.00	-	1		

Descriptive Statistics

	Organizational Structure	Governance Structure	Decision-making	Mean	Std. Deviation	N
Engaging in active delegation, balancing empowerment with appropriate feedback	Provost Model	Multicampus	Total	5.00	.000	2
			Reports to Governing body	5.00	.	1
			Reports to Individual	4.67	.492	12
			Total	4.73	.458	15
			Total	5.00	.000	2
			Reports to Governing body	5.50	.707	2
	Reports to Individual	4.67	.492	12		
	Total	4.81	.544	16		
	Instructional Dean Model	Single (stand-alone)	Reports to Governing body	4.50	1.000	4
			Total	4.50	1.000	4
			Multicampus	Reports to Governing body	3.00	1.732
		Reports to Individual	4.75	1.258	4	
		Total	4.00	1.633	7	
		Reports to Governing body	3.86	1.464	7	
	Reports to Individual	4.75	1.258	4		
	Total	4.18	1.401	11		
	Department Head Model	Single (stand-alone)	Reports to Governing body	5.00	.	1
			Reports to Individual	5.00	.	1
			Total	5.00	.000	2
		Multicampus	Reports to Governing body	4.33	1.528	3
			Total	4.33	1.528	3
			Total	Reports to Governing body	4.50	1.291
	Reports to Individual	5.00	.	1		
	Total	4.60	1.140	5		
Total	Single (stand-alone)	Reports to Governing body	4.50	.707	2	
		Reports to Individual	5.00	.	1	
		Total	4.67	.577	3	
	Single (stand-alone)	Reports to Governing body	4.50	1.378	6	
		Reports to Individual	4.67	.979	148	
		Reports to Individual	4.56	.940	39	
		Total	4.64	.980	193	
		Multicampus	Reports to Individual	5.43	.535	7
			Reports to Governing body	4.74	1.101	105
	Reports to Individual		4.93	.920	129	
	Total	4.86	1.001	241		
	Total	4.93	1.033	15		
	Reports to Governing body	4.70	1.028	254		
	Reports to Individual	4.85	.935	168		
	Total	4.76	.994	437		
Performing public relations activities including public speaking engagements	Total	Reports to Individual	4.00	.	1	
		Total	4.00	.	1	
	Single (stand-alone)	Reports to Governing body	4.00	.	1	
		Total	4.00	.	1	
	Multicampus	Reports to Individual	4.67	.577	3	
		Total	4.67	.577	3	
	Total	Reports to Individual	4.00	.	1	
		Reports to Governing body	4.00	.	1	
		Reports to Individual	4.67	.577	3	
	Total	4.40	.548	5		

Descriptive Statistics

	Organizational Structure	Governance Structure	Decision-making	Mean	Std. Deviation	N
Performing public relations activities including public speaking engagements	Conventional Model		Reports to Governing body	5.00	.	1
			Total	5.00	.000	2
			Single (stand-alone)	Reports to Governing body	5.33	.816
			Reports to individual	5.08	.905	133
			Total	5.03	.847	33
			Multicampus	Reports to Governing body	5.08	.888
		Reports to individual	6.00	.000	5	
		Total	5.08	1.025	87	
		Total	5.01	.949	102	
	Vice President or Executive Dean Model	Single (stand-alone)	Reports to Governing body	5.07	.982	194
			Reports to individual	5.58	.669	12
			Total	5.08	.950	221
		Multicampus	Reports to Governing body	5.01	.922	135
			Reports to individual	5.07	.935	368
			Total	5.25	.886	8
	Provost Model	Single (stand-alone)	Reports to Governing body	5.20	.837	5
			Reports to individual	5.23	.832	13
			Total	5.36	.809	11
		Multicampus	Reports to Governing body	4.88	1.126	8
			Reports to individual	5.16	.958	19
			Total	5.32	.820	19
Instructional Dean Model	Single (stand-alone)	Reports to Governing body	5.00	1.000	13	
		Reports to individual	5.19	.896	32	
		Total	6.00	.	1	
	Multicampus	Reports to Governing body	6.00	.	1	
		Reports to individual	5.00	.000	2	
		Total	5.00	.	1	
Department Head Model	Single (stand-alone)	Reports to Governing body	5.00	.853	12	
		Reports to individual	5.00	.756	15	
		Total	5.00	.000	2	
	Multicampus	Reports to Governing body	5.50	.707	2	
		Reports to individual	5.00	.853	12	
		Total	5.06	.772	16	
Department Head Model	Single (stand-alone)	Reports to Governing body	4.75	.957	4	
		Reports to individual	4.75	.957	4	
		Total	3.33	2.082	3	
	Multicampus	Reports to Governing body	5.00	.000	4	
		Reports to individual	4.29	1.496	7	
		Total	4.14	1.574	7	
Department Head Model	Single (stand-alone)	Reports to Governing body	5.00	.000	4	
		Reports to individual	4.45	1.293	11	
		Total	4.00	.	1	
	Multicampus	Reports to Governing body	5.00	.	1	
		Reports to individual	4.50	.707	2	
		Total	4.00	.000	3	
Department Head Model	Single (stand-alone)	Reports to Governing body	4.00	.000	3	
		Reports to individual	4.00	.000	3	
		Total	4.00	.000	4	
	Multicampus	Reports to Governing body	5.00	.	1	
		Reports to individual	4.20	.447	5	
		Total	4.20	.447	5	

Descriptive Statistics

	Organizational Structure	Governance Structure	Decision-making	Mean	Std. Deviation	N
Performing public relations activities including public speaking engagements	Total			4.50	.707	2
			Reports to Governing body	5.00	-	1
			Total	4.67	.577	3
		Single (stand-alone)		5.33	.816	6
			Reports to Governing body	5.07	.904	148
			Reports to individual	5.05	.826	39
			Total	5.08	.883	193
		Multicampus		5.71	.488	7
			Reports to Governing body	5.03	1.069	105
			Reports to individual	4.99	.923	129
			Total	5.03	.985	241
		Total		5.40	.737	15
			Reports to Governing body	5.06	.972	254
			Reports to individual	5.01	.899	168
			Total	5.05	.938	437
Pursuing personal growth, development, and maintaining peer network				3.00	-	1
			Total	3.00	-	1
		Single (stand-alone)		2.00	-	1
			Reports to Governing body	2.00	-	1
			Total	2.00	-	1
		Multicampus		4.67	.577	3
			Reports to individual	4.67	.577	3
			Total	4.67	.577	3
		Total		3.00	-	1
			Reports to Governing body	2.00	-	1
			Reports to individual	4.67	.577	3
			Total	3.80	1.304	5
		Conventional Model		5.00	-	1
			Reports to Governing body	4.00	-	1
			Total	4.50	.707	2
	Single (stand-alone)		3.67	1.211	6	
		Reports to Governing body	3.67	1.099	133	
		Reports to individual	3.88	.960	33	
		Total	3.71	1.075	172	
	Multicampus		4.80	1.095	5	
		Reports to Governing body	3.83	1.231	87	
		Reports to individual	3.86	1.081	102	
		Total	3.87	1.156	194	
	Total		4.25	1.215	12	
		Reports to Governing body	3.73	1.151	221	
		Reports to individual	3.87	1.050	135	
		Total	3.80	1.118	368	
	Vice President or Executive Dean Model	Single (stand-alone)	Reports to Governing body	4.00	.926	8
			Reports to individual	4.40	.548	5
			Total	4.15	.801	13
		Multicampus	Reports to Governing body	3.73	1.104	11
			Reports to individual	4.38	.916	8
			Total	4.00	1.054	19
	Total		Reports to Governing body	3.84	1.015	19
			Reports to individual	4.38	.768	13
			Total	4.06	.948	32
	Provost Model	Single (stand-alone)	Reports to Governing body	5.00	-	1
			Total	5.00	-	1

Descriptive Statistics

	Organizational Structure	Governance Structure	Decision-making	Mean	Std. Deviation	N	
Pursuing personal growth, development, and maintaining peer network	Provost Model	Multicampus	Total	4.00	.000	2	
			Reports to Governing body	5.00	.	1	
			Reports to Individual	3.75	1.138	12	
			Total	3.87	1.060	15	
			Total	4.00	.000	2	
			Reports to Governing body	5.00	.000	2	
	Instructional Dean Model	Single (stand-alone)	Reports to Individual	3.75	1.138	12	
			Total	3.94	1.063	16	
			Reports to Governing body	4.25	.957	4	
			Total	4.25	.957	4	
			Multicampus	Reports to Governing body	2.67	1.528	3
				Reports to Individual	3.25	.500	4
	Total	3.00		1.000	7		
	Reports to Governing body	3.57		1.397	7		
	Reports to Individual	3.25		.500	4		
	Total	3.45		1.128	11		
	Department Head Model	Single (stand-alone)	Reports to Governing body	4.00	.	1	
			Reports to Individual	4.00	.	1	
			Total	4.00	.000	2	
			Multicampus	Reports to Governing body	1.33	.577	3
Total				1.33	.577	3	
Reports to Governing body				2.00	1.414	4	
Reports to Individual	4.00	.		1			
Total	2.40	1.517		5			
Total	4.00	1.414		2			
Modeling interpersonal skills such as effective listening, coaching, and mentoring	Single (stand-alone)	Reports to Governing body	4.00	.	1		
		Reports to Individual	4.00	.	1		
		Total	4.00	1.000	3		
		Reports to Governing body	3.67	1.211	6		
		Reports to Individual	3.70	1.091	148		
		Total	3.95	.916	39		
	Multicampus	Reports to Individual	3.75	1.061	193		
		Total	4.57	.976	7		
		Reports to Governing body	3.72	1.282	105		
		Reports to Individual	3.88	1.065	129		
		Total	3.83	1.168	241		
		Total	4.13	1.125	15		
	Total	Reports to Governing body	3.71	1.169	254		
		Reports to Individual	3.90	1.030	168		
		Total	3.80	1.119	437		
Total		4.00	.	1			
Total		4.00	.	1			
Reports to Governing body		3.00	.	1			
Multicampus	Reports to Individual	3.00	.	1			
	Total	5.00	1.000	3			
	Total	5.00	1.000	3			
	Total	4.00	.	1			
	Reports to Governing body	3.00	.	1			
	Reports to Individual	5.00	1.000	3			
Total	4.40	1.140	5				

Descriptive Statistics

	Organizational Structure	Governance Structure	Decision-making	Mean	Std. Deviation	N		
Modeling interpersonal skills such as effective listening, coaching, and mentoring	Conventional Model		Reports to Governing body	6.00	.	1		
			Total	5.00	.	1		
			Total	5.50	.707	2		
		Single (stand-alone)		Reports to Governing body	4.83	1.169	6	
				Reports to Individual	4.51	1.098	133	
				Total	4.76	1.062	33	
		Multicampus		Reports to Governing body	4.57	1.093	172	
				Reports to Individual	5.60	.548	5	
				Total	4.69	1.164	87	
		Total		Reports to Governing body	5.02	.965	102	
				Reports to Individual	4.89	1.066	194	
				Total	5.25	.965	12	
	Vice President or Executive Dean Model	Single (stand-alone)		Reports to Governing body	4.58	1.124	221	
				Reports to Individual	4.96	.992	135	
				Total	4.74	1.088	368	
			Multicampus		Reports to Governing body	4.75	1.389	8
					Reports to Individual	4.40	.548	5
					Total	4.62	1.121	13
		Total		Reports to Governing body	4.91	1.375	11	
				Reports to Individual	5.25	.886	8	
				Total	5.05	1.177	19	
		Provost Model	Single (stand-alone)		Reports to Governing body	4.84	1.344	19
					Reports to Individual	4.92	.862	13
					Total	4.87	1.157	32
Multicampus				Reports to Governing body	5.00	.	1	
				Reports to Individual	5.00	.	1	
				Total	5.00	.000	2	
Total			Reports to Governing body	5.00	.000	2		
			Reports to Individual	4.92	.793	12		
			Total	4.93	.704	15		
Instructional Dean Model	Single (stand-alone)			Reports to Governing body	5.00	.000	2	
				Reports to Individual	4.92	.793	12	
				Total	4.94	.680	16	
		Multicampus		Reports to Governing body	5.00	.000	2	
				Reports to Individual	4.92	.793	12	
				Total	4.94	.680	16	
	Total		Reports to Governing body	4.75	.500	4		
			Reports to Individual	4.75	.500	4		
			Total	4.75	.500	4		
		Multicampus		Reports to Governing body	3.00	1.732	3	
				Reports to Individual	5.00	1.414	4	
				Total	4.14	1.773	7	
Total		Reports to Governing body	4.00	1.414	7			
		Reports to Individual	5.00	1.414	4			
		Total	4.36	1.433	11			
Department Head Model	Single (stand-alone)		Reports to Governing body	4.00	.	1		
			Reports to Individual	5.00	.	1		
			Total	4.50	.707	2		
		Multicampus		Reports to Governing body	5.33	.577	3	
				Reports to Individual	5.33	.577	3	
				Total	5.33	.577	3	
	Total		Reports to Governing body	5.00	.816	4		
			Reports to Individual	5.00	.	1		
			Total	5.00	.707	5		

Descriptive Statistics

	Organizational Structure	Governance Structure	Decision-making	Mean	Std. Deviation	N	
Modeling interpersonal skills such as effective listening, coaching, and mentoring	Total			5.00	1.414	2	
			Reports to Governing body	5.00	.	1	
			Total	5.00	1.000	3	
	Single (stand-alone)			4.83	1.169	6	
			Reports to Governing body	4.52	1.097	148	
			Reports to individual	4.72	.999	39	
	Multicampus			4.57	1.076	193	
			Reports to Governing body	5.43	.535	7	
			Reports to individual	4.69	1.211	105	
	Total			5.02	.948	129	
			Total	4.89	1.076	241	
				5.13	.915	15	
	Fostering collaborative decision making and team building	Total			4.59	1.145	254
				Reports to Governing body	4.95	.965	168
				Total	4.75	1.086	437
Single (stand-alone)				6.00	.	1	
			Reports to Governing body	6.00	.	1	
			Total	6.00	.	1	
Multicampus				5.00	.	1	
			Reports to individual	5.33	.577	3	
			Total	5.33	.577	3	
Total				6.00	.	1	
			Reports to Governing body	5.00	.	1	
			Reports to individual	5.33	.577	3	
Conventional Model		Total			5.40	.548	5
				Reports to Governing body	6.00	.	1
				Total	5.00	.	1
	Single (stand-alone)			5.50	.707	2	
			Reports to Governing body	5.17	.753	6	
			Reports to individual	4.87	.933	133	
	Multicampus			5.06	.998	33	
			Reports to individual	4.92	.939	172	
			Total	5.60	.548	5	
	Total			5.14	.990	87	
			Reports to Governing body	5.27	.822	102	
			Reports to individual	5.22	.898	194	
	Total			5.42	.669	12	
			Reports to Governing body	4.98	.960	221	
			Reports to individual	5.22	.870	135	
Vice President or Executive Dean Model	Total			5.08	.927	368	
			Reports to Governing body	5.00	.926	8	
			Reports to individual	4.40	.548	5	
	Single (stand-alone)			4.77	.832	13	
			Reports to Governing body	5.55	.522	11	
			Reports to individual	5.38	.744	8	
	Multicampus			5.47	.612	19	
			Reports to Governing body	5.32	.749	19	
			Reports to individual	5.00	.816	13	
	Total			5.19	.780	32	
			Reports to Governing body	6.00	.	1	
			Total	6.00	.	1	
	Provost Model	Single (stand-alone)			6.00	.	1
				Reports to Governing body	6.00	.	1
				Total	6.00	.	1

Descriptive Statistics

	Organizational Structure	Governance Structure	Decision-making	Mean	Std. Deviation	N	
Fostering collaborative decision making and team building	Provost Model	Multicampus	Total	5.00	.000	2	
			Reports to Governing body	5.00	.	1	
			Reports to Individual	5.08	.515	12	
			Total	5.07	.458	15	
			Total	5.00	.000	2	
	Instructional Dean Model	Single (stand-alone)	Multicampus	Reports to Governing body	5.50	.707	2
				Reports to Individual	5.08	.515	12
				Total	5.13	.500	16
				Reports to Governing body	5.00	.816	4
				Total	5.00	.816	4
	Instructional Dean Model	Multicampus	Single (stand-alone)	Reports to Governing body	3.33	2.082	3
				Reports to Individual	5.50	.577	4
				Total	4.57	1.718	7
				Reports to Governing body	4.29	1.604	7
				Reports to Individual	5.50	.577	4
	Department Head Model	Single (stand-alone)	Multicampus	Total	4.73	1.421	11
				Reports to Governing body	5.00	.	1
				Reports to Individual	5.00	.	1
				Total	5.00	.000	2
				Reports to Governing body	5.00	.000	3
Department Head Model	Multicampus	Single (stand-alone)	Total	5.00	.000	3	
			Reports to Governing body	5.00	.000	4	
			Reports to Individual	5.00	.	1	
			Total	5.00	.000	5	
			Reports to Governing body	5.00	.000	2	
Total	Total	Total	Reports to Governing body	6.00	.000	2	
			Reports to Individual	5.00	.	1	
			Total	5.67	.577	3	
			Reports to Governing body	5.17	.753	6	
			Reports to Individual	4.89	.919	148	
			Reports to Individual	4.97	.959	39	
			Total	4.92	.920	193	
			Reports to Governing body	5.43	.535	7	
			Reports to Individual	5.12	1.016	105	
			Reports to Individual	5.27	.778	129	
			Total	5.21	.886	241	
			Reports to Governing body	5.40	.632	15	
			Reports to Individual	4.99	.954	254	
			Reports to Individual	5.20	.830	168	
			Total	5.08	.911	437	
Performing institutional development including fundraising and grant procurement	Total	Total	Total	2.00	.	1	
			Total	2.00	.	1	
			Reports to Governing body	5.00	.	1	
			Total	5.00	.	1	
			Reports to Individual	4.33	.577	3	
			Total	4.33	.577	3	
			Reports to Individual	2.00	.	1	
			Reports to Governing body	5.00	.	1	
			Reports to Individual	4.33	.577	3	
			Total	4.00	1.225	5	

Descriptive Statistics

	Organizational Structure	Governance Structure	Decision-making	Mean	Std. Deviation	N
Performing Institutional development including fundraising and grant procurement	Conventional Model		Reports to Governing body	5.00	.	1
			Total	5.00	.000	2
			Single (stand-alone)	4.33	1.033	6
			Reports to Governing body	4.68	.924	133
			Reports to Individual	4.82	1.014	33
			Total	4.70	.944	172
	Multicampus	Reports to Governing body	5.20	.837	5	
		Reports to Individual	4.66	1.055	87	
		Total	4.66	1.020	102	
	Total	Reports to Governing body	4.67	1.030	194	
		Reports to Individual	4.75	.965	12	
		Total	4.67	.974	221	
	Vice President or Executive Dean Model	Single (stand-alone)	Reports to Governing body	4.70	1.017	135
			Reports to Individual	4.68	.987	368
			Total	5.00	.926	8
		Multicampus	Reports to Governing body	4.00	1.414	5
			Reports to Individual	4.62	1.193	13
			Total	5.36	.924	11
	Total	Reports to Governing body	4.63	1.188	8	
		Reports to Individual	5.05	1.079	19	
		Total	5.21	.918	19	
	Provost Model	Single (stand-alone)	Reports to Governing body	4.38	1.261	13
			Reports to Individual	4.87	1.129	32
Total			4.00	.	1	
Multicampus		Reports to Governing body	4.00	.	1	
		Reports to Individual	4.50	.707	2	
		Total	5.00	.	1	
Total	Reports to Governing body	4.58	1.311	12		
	Reports to Individual	4.60	1.183	15		
	Total	4.50	.707	2		
Instructional Dean Model	Single (stand-alone)	Reports to Governing body	4.50	.707	2	
		Reports to Individual	4.58	1.311	12	
		Total	4.56	1.153	16	
	Multicampus	Reports to Governing body	4.50	.577	4	
		Reports to Individual	3.00	1.732	3	
		Total	3.50	1.732	4	
Total	Reports to Governing body	3.29	1.604	7		
	Reports to Individual	3.86	1.345	7		
	Total	3.50	1.732	4		
Department Head Model	Single (stand-alone)	Reports to Governing body	3.73	1.421	11	
		Reports to Individual	4.00	.	1	
		Total	4.00	.000	2	
	Multicampus	Reports to Governing body	3.33	1.155	3	
		Reports to Individual	3.33	1.155	3	
		Total	3.50	1.000	4	
Total	Reports to Governing body	4.00	.	1		
	Reports to Individual	4.00	.	1		
	Total	3.60	.894	5		

Descriptive Statistics

	Organizational Structure	Governance Structure	Decision-making	Mean	Std. Deviation	N	
Performing institutional development including fundraising and grant procurement	Total			3.50	2.121	2	
			Reports to Governing body	5.00	.	1	
			Total	4.00	1.732	3	
	Single (stand-alone)			4.33	1.033	6	
			Reports to Governing body	4.69	.910	148	
			Reports to individual	4.69	1.080	39	
	Multicampus			4.68	.947	193	
			Reports to Governing body	5.00	.816	7	
			Reports to individual	4.65	1.126	105	
	Total			4.60	1.078	129	
			Total	4.63	1.091	241	
				4.53	1.125	15	
	Total		Reports to Governing body	4.67	1.002	254	
			Reports to individual	4.63	1.076	168	
			Total	4.65	1.033	437	
Fostering board relations and actively participating in institutional governance	Total			4.00	.	1	
			Total	4.00	.	1	
				4.00	.	1	
	Single (stand-alone)			4.00	.	1	
			Reports to Governing body	4.00	.	1	
			Total	4.00	.	1	
	Multicampus		Reports to individual	3.67	2.309	3	
			Total	3.67	2.309	3	
				4.00	.	1	
	Total		Reports to Governing body	4.00	.	1	
			Reports to individual	3.67	2.309	3	
			Total	3.80	1.643	5	
	Conventional Model	Total			4.00	.	1
				Reports to Governing body	5.00	.	1
				Total	4.50	.707	2
Single (stand-alone)				5.33	.816	6	
			Reports to Governing body	5.32	.917	133	
			Reports to individual	4.24	1.582	33	
Multicampus			Total	5.12	1.149	172	
				4.20	1.924	5	
			Reports to Governing body	5.32	.994	87	
Total			Reports to individual	4.47	1.287	102	
			Total	4.85	1.254	194	
				4.75	1.422	12	
Total			Reports to Governing body	5.32	.944	221	
			Reports to individual	4.41	1.363	135	
			Total	4.97	1.209	368	
Vice President or Executive Dean Model	Single (stand-alone)		Reports to Governing body	5.75	.463	8	
			Reports to individual	4.00	1.732	5	
			Total	5.08	1.382	13	
	Multicampus		Reports to Governing body	5.73	.647	11	
			Reports to individual	4.38	1.061	8	
			Total	5.16	1.068	19	
	Total		Reports to Governing body	5.74	.562	19	
			Reports to individual	4.23	1.301	13	
			Total	5.13	1.185	32	
Provost Model	Single (stand-alone)		Reports to Governing body	6.00	.	1	
			Total	6.00	.	1	

Descriptive Statistics

	Organizational Structure	Governance Structure	Decision-making	Mean	Std. Deviation	N
Fostering board relations and actively participating in institutional governance	Provost Model	Multicampus	Total	4.50	.707	2
			Reports to Governing body	5.00	.	1
			Reports to Individual	4.33	.985	12
			Total	4.40	.910	15
			Total	4.50	.707	2
			Reports to Governing body	5.50	.707	2
	Reports to Individual	4.33	.985	12		
	Total	4.50	.966	16		
	Instructional Dean Model	Single (stand-alone)	Reports to Governing body	5.50	.577	4
			Total	5.50	.577	4
			Total	5.50	.577	4
		Multicampus	Reports to Governing body	3.67	2.309	3
			Reports to Individual	3.25	1.500	4
			Total	3.43	1.716	7
	Total	Reports to Governing body	4.71	1.704	7	
	Reports to Individual	3.25	1.500	4		
	Total	4.18	1.722	11		
	Department Head Model	Single (stand-alone)	Reports to Governing body	4.00	.	1
			Reports to Individual	4.00	.	1
			Total	4.00	.000	2
		Multicampus	Reports to Governing body	3.00	1.732	3
			Total	3.00	1.732	3
			Total	3.25	1.500	4
	Total	Single (stand-alone)	Reports to Governing body	4.00	.	1
Reports to Individual			4.00	.	1	
Total			3.40	1.342	5	
Multicampus		Reports to Governing body	4.00	.000	2	
		Reports to Governing body	5.00	.	1	
		Total	4.33	.577	3	
Single (stand-alone)	Multicampus	Reports to Governing body	5.33	.816	6	
		Reports to Individual	5.34	.900	148	
		Total	4.21	1.559	39	
	Total	Reports to Individual	5.11	1.152	193	
		Reports to Governing body	4.29	1.604	7	
		Reports to Individual	5.25	1.125	105	
Reports to Individual	4.40	1.283	129			
Total	4.76	1.293	241			
Total	4.67	1.291	15			
Reports to Governing body	5.30	.997	254			
Reports to Individual	4.35	1.350	168			
Total	4.91	1.240	437			
Managing institutional and personal time	Total	Total	3.00	.	1	
		Total	3.00	.	1	
	Single (stand-alone)	Reports to Governing body	4.00	.	1	
		Total	4.00	.	1	
	Multicampus	Reports to Individual	4.67	1.528	3	
		Total	4.67	1.528	3	
	Total	Total	3.00	.	1	
		Reports to Governing body	4.00	.	1	
	Reports to Individual	4.67	1.528	3		
	Total	4.20	1.304	5		

Descriptive Statistics

Organizational Structure	Governance Structure	Decision-making	Mean	Std. Deviation	N	
Managing Institutional and personal time	Conventional Model		4.00	.	1	
		Reports to Governing body	5.00	.	1	
		Total	4.50	.707	2	
	Single (stand-alone)			4.00	1.265	6
		Reports to Governing body		4.71	1.234	133
		Reports to individual		4.67	1.137	33
	Multicampus			4.68	1.217	172
		Reports to Governing body		5.20	.447	5
		Reports to individual		4.53	1.256	87
	Total			4.74	1.080	102
				4.65	1.156	194
				4.50	1.087	12
	Vice President or Executive Dean Model	Single (stand-alone)	Reports to Governing body	4.64	1.241	221
			Reports to individual	4.72	1.090	135
			Total	4.67	1.181	368
Multicampus		Reports to Governing body	4.62	1.685	8	
		Reports to individual	4.40	.548	5	
		Total	4.54	1.330	13	
Total		Reports to Governing body	4.73	1.421	11	
		Reports to individual	5.00	1.414	8	
		Total	4.84	1.385	19	
Total		Reports to Governing body	4.68	1.493	19	
		Reports to individual	4.77	1.166	13	
		Total	4.72	1.350	32	
Provost Model	Single (stand-alone)	Reports to Governing body	4.00	.	1	
		Total	4.00	.	1	
	Multicampus			5.00	.000	2
		Reports to Governing body		3.00	.	1
		Reports to individual		5.00	.853	12
Total		4.87	.915	15		

Descriptive Statistics

	Organizational Structure	Governance Structure	Decision-making	Mean	Std. Deviation	N
Managing Institutional and personal time	Provost Model	Total	Reports to Governing body	5.00	.000	2
			Reports to Individual	3.50	.707	2
			Total	5.00	.853	12
	Instructional Dean Model	Single (stand-alone)	Reports to Governing body	4.81	.911	16
			Total	5.25	.500	4
		Multicampus	Reports to Governing body	5.25	.500	4
			Reports to Individual	4.33	2.887	3
			Total	4.50	1.291	4
		Total	4.43	1.902	7	
		Department Head Model	Single (stand-alone)	Reports to Governing body	4.86	1.773
	Reports to Individual			4.50	1.291	4
	Total		4.73	1.555	11	
	Multicampus		Reports to Governing body	5.00	.	1
			Reports to Individual	4.00	.	1
			Total	4.50	.707	2
	Total		2.67	1.155	3	
	Total	2.67	1.155	3		
	Total	Single (stand-alone)	Reports to Governing body	3.25	1.500	4
			Reports to Individual	4.00	.	1
		Total	3.40	1.342	5	
		Multicampus	Reports to Governing body	3.50	.707	2
			Reports to Individual	5.00	.	1
			Total	4.00	1.000	3
		Total	4.00	1.265	6	
	Total	Single (stand-alone)	Reports to Governing body	4.72	1.235	148
			Reports to Individual	4.62	1.067	39
			Total	4.67	1.204	193
Multicampus		Reports to Governing body	5.14	.378	7	
		Reports to Individual	4.48	1.345	105	
		Total	4.77	1.086	129	
Total		4.65	1.202	241		
Total	Single (stand-alone)	Reports to Governing body	4.47	1.060	15	
		Reports to Individual	4.62	1.282	254	
	Multicampus	Reports to Individual	4.73	1.080	168	
		Total	4.66	1.201	437	

**APPENDIX E: UNIVARIATE ANOVA – TESTS OF BETWEEN SUBJECT
EFFECTS**

Univariate ANOVA – Tests of Between Subject Effects
 Organizational Structures by Governance Structures

	Type III SS	df	MS	F	Sig.
Defining, implementing, and promoting the college's mission	8.123	4	2.031	1.822	.124
Serving as advocate with members of the community and elected officials at all levels	6.356	4	1.589	1.741	.140
Managing operations including facilities planning, design, and/or maintenance	5.202	4	1.300	.992	.412
Planning, controlling, and/or making decisions regarding budget and finance	8.538	4	2.134	2.371	.052
Researching, developing, and implementing short and long range institutional plans	6.658	4	1.665	1.807	.127
Understanding legal issues and dealing with legal concerns	3.929	4	.982	.753	.556
Identifying institutional problems and developing creative solutions	4.919	4	1.230	1.356	.248
Gathering, analyzing, and interpreting information for purposes of making informed decisions	1.626	4	.407	.421	.793
Assessing cross-cultural differences and promoting diversity	1.228	4	.307	.249	.910
Designing motivating jobs, clarifying lines of authority, and supervision of direct reports	9.345	4	2.336	1.891	.111
Assuming leadership role in curriculum development, student learning and assessment	5.928	4	1.482	1.330	.258
Motivating and inspiring the institutional management team	7.194	4	1.799	2.103	.080
Participating in personnel selection processes	3.123	4	.781	.556	.695
Performing personnel appraisals and implementing professional development activities	.701	4	.175	.169	.954
Managing operational and instructional technology	3.565	4	.891	.802	.525
Developing partnerships and participating in strategies for community and economic development	4.297	4	1.074	1.080	.366
Mediating, negotiating, and resolving institutional conflict	14.793	4	3.698	2.499	.042
Engaging in active delegation, balancing empowerment with appropriate feedback	6.365	4	1.591	1.633	.165
Performing public relations activities including public speaking engagements	4.146	4	1.036	1.187	.316
Pursuing personal growth, development, and maintaining peer network	9.240	4	2.310	1.909	.108
Modeling interpersonal skills such as effective listening, coaching, and mentoring	7.254	4	1.813	1.572	.181
Fostering collaborative decision making and team building	8.186	4	2.047	2.536	.040
Performing institutional development including fundraising and grant procurement	6.640	4	1.660	1.607	.172
Fostering board relations and actively participating in institutional governance	6.056	4	1.514	1.169	.324
Managing institutional and personal time	5.477	4	1.369	.944	.439

Univariate ANOVA – Tests of Between Subject Effects

Organizational Structures by Reporting (Decision-making)

	Type III SS	df	MS	F	Sig.
Defining, implementing, and promoting the college's mission	10.801	5	2.160	1.938	.087
Serving as advocate with members of the community and elected officials at all levels	15.117	5	3.023	3.312	.006
Managing operations including facilities planning, design, and/or maintenance	8.523	5	1.705	1.300	.263
Planning, controlling, and/or making decisions regarding budget and finance	3.610	5	.722	.802	.549
Researching, developing, and implementing short and long range institutional plans	8.998	5	1.800	1.953	.850
Understanding legal issues and dealing with legal concerns	16.783	5	3.357	2.574	.026
Identifying institutional problems and developing creative solutions	9.625	5	1.925	2.123	.062
Gathering, analyzing, and interpreting information for purposes of making informed decisions	7.449	5	1.490	1.544	.175
Assessing cross-cultural differences and promoting diversity	4.905	5	.981	.796	.553
Designing motivating jobs, clarifying lines of authority, and supervision of direct reports	11.666	5	2.333	1.888	.095
Assuming leadership role in curriculum development, student learning and assessment	16.980	5	3.396	3.048	.010
Motivating and inspiring the institutional management team	4.158	5	.832	.972	.435
Participating in personnel selection processes	8.157	5	1.631	1.162	.327
Performing personnel appraisals and implementing professional development activities	7.586	5	1.517	1.460	.202
Managing operational and instructional technology	13.721	5	2.744	2.469	.032
Developing partnerships and participating in strategies for community and economic development	10.157	5	2.031	2.042	.072
Mediating, negotiating, and resolving institutional conflict	21.284	5	4.257	2.876	.014
Engaging in active delegation, balancing empowerment with appropriate feedback	4.427	5	.855	.909	.475
Performing public relations activities including public speaking engagements	7.687	5	1.537	1.761	.120
Pursuing personal growth, development, and maintaining peer network	3.935	5	.787	.650	.661
Modeling interpersonal skills such as effective listening, coaching, and mentoring	5.555	5	1.111	.963	.440
Fostering collaborative decision making and team building	8.614	5	1.723	2.135	.060
Performing institutional development including fundraising and grant procurement	7.075	5	1.415	1.370	.235
Fostering board relations and actively participating in institutional governance	3.610	5	.722	.558	.733
Managing institutional and personal time	3.212	5	.642	.443	.819

Univariate ANOVA – Tests of Between Subject Effects
 Governance Structures by Reporting (Decision-making)

	Type III SS	df	MS	F	Sig.
Defining, implementing, and promoting the college's mission	6.850	3	2.283	2.048	.107
Serving as advocate with members of the community and elected officials at all levels	7.063	3	2.354	2.579	.053
Managing operations including facilities planning, design, and/or maintenance	3.292	3	1.097	.837	.474
Planning, controlling, and/or making decisions regarding budget and finance	1.663	3	.554	.616	.605
Researching, developing, and implementing short and long range institutional plans	2.155	3	.718	.780	.506
Understanding legal issues and dealing with legal concerns	5.126	3	1.709	1.310	.271
Identifying institutional problems and developing creative solutions	.412	3	.137	.151	.929
Gathering, analyzing, and interpreting information for purposes of making informed decisions	.733	3	.244	.253	.859
Assessing cross-cultural differences and promoting diversity	11.872	3	3.957	3.213	.023
Designing motivating jobs, clarifying lines of authority, and supervision of direct reports	4.321	3	1.440	1.166	.322
Assuming leadership role in curriculum development, student learning and assessment	2.079	3	.693	.622	.601
Motivating and inspiring the institutional management team	1.786	3	.595	.696	.555
Participating in personnel selection processes	8.858	3	2.953	2.102	.099
Performing personnel appraisals and implementing professional development activities	5.260	3	1.753	1.688	.169
Managing operational and instructional technology	3.988	3	1.329	1.196	.311
Developing partnerships and participating in strategies for community and economic development	1.509	3	.503	.506	.679
Mediating, negotiating, and resolving institutional conflict	4.754	3	1.585	1.071	.361
Engaging in active delegation, balancing empowerment with appropriate feedback	3.544	3	1.181	1.212	.305
Performing public relations activities including public speaking engagements	1.673	3	.558	.639	.590
Pursuing personal growth, development, and maintaining peer network	3.127	3	1.042	.861	.461
Modeling interpersonal skills such as effective listening, coaching, and mentoring	1.904	3	.635	.550	.648
Fostering collaborative decision making and team building	.534	3	.178	.220	.882
Performing institutional development including fundraising and grant procurement	2.467	3	.822	.796	.497
Fostering board relations and actively participating in institutional governance	4.780	3	1.593	1.230	.298
Managing institutional and personal time	5.585	3	1.862	1.283	.208

Univariate ANOVA – Tests of Between Subject Effects

Organizational by Governance Structures by Reporting (Decision-making)

	Type III SS	df	MS	F	Sig.
Defining, implementing, and promoting the college's mission	4.540	1	4.540	4.073	.044
Serving as advocate with members of the community and elected officials at all levels	6.821	1	6.821	7.472	.007
Managing operations including facilities planning, design, and/or maintenance	5.785	1	5.785	4.412	.036
Planning, controlling, and/or making decisions regarding budget and finance	1.524	1	1.524	1.693	.194
Researching, developing, and implementing short and long range institutional plans	1.902	1	1.902	2.064	.152
Understanding legal issues and dealing with legal concerns	.948	1	.948	.727	.394
Identifying institutional problems and developing creative solutions	.443	1	.443	.488	.485
Gathering, analyzing, and interpreting information for purposes of making informed decisions	3.113	1	3.113	3.227	.073
Assessing cross-cultural differences and promoting diversity	4.846	1	4.846	3.934	.048
Designing motivating jobs, clarifying lines of authority, and supervision of direct reports	3.536	1	3.536	2.862	.091
Assuming leadership role in curriculum development, student learning and assessment	2.595	1	2.595	2.329	.128
Motivating and inspiring the institutional management team	.189	1	.189	.221	.639
Participating in personnel selection processes	.457	1	.457	.326	.569
Performing personnel appraisals and implementing professional development activities	.741	1	.741	.713	.399
Managing operational and instructional technology	3.453	1	3.453	3.106	.079
Developing partnerships and participating in strategies for community and economic development	2.990E-02	1	2.990E-02	.030	.862
Mediating, negotiating, and resolving institutional conflict	2.581E-03	1	2.581E-03	.002	.967
Engaging in active delegation, balancing empowerment with appropriate feedback	2.094E-02	1	2.094E-02	.021	.884
Performing public relations activities including public speaking engagements	.295	1	.295	.337	.562
Pursuing personal growth, development, and maintaining peer network	.297	1	.297	.245	.621
Modeling interpersonal skills such as effective listening, coaching, and mentoring	.615	1	.615	.533	.466
Fostering collaborative decision making and team building	.386	1	.386	.479	.489
Performing institutional development including fundraising and grant procurement	.258	1	.258	.250	.617
Fostering board relations and actively participating in institutional governance	4.709E-02	1	4.709E-02	.036	.849
Managing institutional and personal time	9.886E-02	1	9.88E-02	.068	.794

CURRICULUM VITAE

CURRICULUM VITAE

TIMOTHY R. OXLEY

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- 2003 – Present Assistant Vice President for Academic Services, Fairmont State University
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- 2002 – 2003 Director of the Gaston Caperton Center, Fairmont State University
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- 1999 – 2002 Director of Sponsored Programs; Executive Director, Research and Development Corporation, Concord University
Athens, West Virginia
- 1992 – 1999 Director, Center for Economic Action, Concord University
Athens, West Virginia
- 1987 – 1992 Executive Director, Region 4 Planning and Development Council
Summersville, West Virginia
- 1979 – 1987 Deputy Director, Region 4 Planning and Development Council
Summersville, West Virginia
- 1977 – 1979 State Clearinghouse Coordinator, Governor's Office of Community and Industrial Development, Community Development Division
Charleston, West Virginia
- 1976 – 1977 Program Evaluation Specialist, Governor's Office of Community and Industrial Development, Appalachian Development Office,
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TEACHING EXPERIENCE

- 2002 – 2007 Adjunct Faculty, School of Business; Fairmont State University
- 1993 – 2001 Adjunct Faculty, Division of Business and Economics; Division of Social Sciences; Concord University
- 1990 – 1992 Adjunct Faculty, Glenville State College, Division of Business, Nicholas County Center