University of Tennessee, Knoxville
Trace: Tennessee Research and Creative Exchange

Doctoral Dissertations   Graduate School

8-2005

An Investigation of Institutional Research in Tennessee Community Colleges: Functions, Technology Use, and Impact on Decision-making by College Presidents

Randolph C. Schulte
University of Tennessee - Knoxville

To the Graduate Council:

I am submitting herewith a dissertation written by Randolph C. Schulte entitled "An Investigation of Institutional Research in Tennessee Community Colleges: Functions, Technology Use, and Impact on Decision-making by College Presidents." I have examined the final electronic copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Education, with a major in Educational Administration.

<div align="right">

Russell L. French, Major Professor

</div>

We have read this dissertation and recommend its acceptance:

Mary Jane Connelly, Thomas W. George, Richard Gruetzemacher, Gary J. Skolits

<div align="right">

Accepted for the Council:

Dixie L. Thompson

Vice Provost and Dean of the Graduate School

</div>

(Original signatures are on file with official student records.)

To the Graduate Council:

        I am submitting herewith a dissertation written by Randolph C. Schulte entitled "An Investigation of Institutional Research in Tennessee Community Colleges: Functions, Technology Use, and Impact on Decision-making by College Presidents." I have examined the final electronic copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment for the degree of Doctor of Education, with a major in Educational Administration and Policy Studies.

<u>Russell L. French</u>
Major Professor

We have read this dissertation
and recommend its acceptance:

<u>Mary Jane Connelly</u>

<u>Thomas W. George</u>

<u>Richard Gruetzemacher</u>

<u>Gary J. Skolits</u>

Accepted for the Council:

<u>Anne Mayhew</u>
Vice Chancellor and
Dean of Graduate Studies

(Original signatures are on file with official student records.)

An Investigation of Institutional Research in Tennessee Community Colleges:

Functions, Technology Use, and Impact on Decision-making by College Presidents

A Dissertation

Presented for the

Doctor of Education

Degree

The University of Tennessee, Knoxville

Randolph C. Schulte

August, 2005

DEDICATION

This dissertation is dedicated to my mother, Gloria M. Schulte, and to the memory of my father, Walter V. Schulte, who together instilled in me a great love of learning. Their love for one another and for each of us in our family inspired me to set high goals and remain dedicated to them until they were accomplished.

This dissertation is also dedicated with great love and affection to my wife, Gail, and our three wonderful children, Brittany, Clay, and Nicholas. You are the very essence of my life and I love you deeply and dearly.

ACKNOWLEDGEMENTS

This dissertation would not have been possible without the collective assistance and support from many treasured colleagues, friends, and family members whose wisdom, encouragement, and guidance I value sincerely and wish to acknowledge herein.

First and foremost, this endeavor would never have reached fruition without the timely and unselfish response from Dr. Russell French who took me under his wing, provided my research with meaningful direction, and directed my efforts with brilliance. I was also invaluably aided by Dr. Richard Gruetzemacher who served as my mentor in Chattanooga. Dr. Gary Skolits provided salient advice and enthusiastic support. I also wish to thank my other committee members, Dr. Thomas W. George and Dr. Mary Jane Connelly, who have been dependably with me since my first day in the doctoral program.

This project would not have been possible without the earnest involvement and full cooperation by the presidents and chief institutional research officers of the thirteen community colleges of Tennessee, all of whom have my highest respect and gratitude. Of special note are Dr. James Catanzaro, President of Chattanooga State, and Dr. Nora Ernst, Director of Institutional Research at Chattanooga State, whose guidance and support have been instrumental in my achievements.

Among the many colleagues who have been beside me throughout this process, I would like to acknowledge both Dr. Jim Barrott, friend and classmate, as well as Dr. Gladys Crates, friend and mentor *extraordinaire*. Their spirit and amity have always bolstered my determination and kept me on task.

ABSTRACT

For over a decade, three issues – institutional effectiveness, competitive market forces, and demand for accountability – have indelibly impacted the governance of all institutions of higher education, not in the least the community college. In the state of Tennessee, the Tennessee Board of Regents' Defining Our Future plan, which was developed in response to state legislation requiring higher education systems to operate more efficiently and with more limited resources, positioned the office of Institutional Research as vital with regards to information processing, effective technology application, and decision-support by Tennessee community college presidents.

The main purpose of this study was to gather descriptive data in order to describe the functions of the offices of institutional research and the extent of their utilization of technology in the thirteen Tennessee community colleges. This study addressed the characteristics and responsibilities of institutional research offices by means of a survey instrument completed by all thirteen chief officers of institutional research. The second main purpose was to link this descriptive data with the campus governance and leadership through the office of each college president. Person to person interviews were held with all thirteen Tennessee community college presidents regarding their perceptions of the roles of institutional research and their means of using institutional research in decision-making.

The survey and the interview protocol were designed to provide answers to ten research questions on the current roles and responsibilities of institutional research offices; the types and level of utilization of technology in the offices of institutional

research; and the perspectives of Tennessee's community college presidents on the institutional research function. Analysis of the data provided answers to the research questions and, among other findings, it was found that the offices of institutional research universally serve a broad range of functions including institution-wide functions, efficiency considerations, academic-centered functions, student-centered functions, information reporting, external relations, and administrative duties. However, eight of the thirteen offices were staffed by only one full time professional. The study found that while technology was deemed as a highly utilized tool by institutional research offices, the use of and training in statistical analysis software and campus information systems was not fully realized. The data collected from interviews with college presidents suggested that the offices of institutional research are most widely referenced for institution-wide activities such as strategic planning, accreditation requirements, and institutional effectiveness as well as for budgeting decisions. Other key areas of collaboration between the college president and the office of institutional research include academic performance measures, enrollment management, and community outreach endeavors.

This study determined the need for further research in several areas. First, it will be beneficial to assess its institutional research resources at each campus; second, to study how community college presidents use institutional research for specific functions; third, to conduct a broader comparison study of community college institutional research offices within the SACS region or nationwide; finally, to conduct a study of how other community college campus leaders – vice presidents and deans, for example – use institutional research in decision-making.

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER 1

INTRODUCTION

Background

  For over a decade, three issues – institutional effectiveness, competitive market forces, and demand for accountability – have indelibly impacted the governance of all institutions of higher education, not in the least the community college. In the state of Tennessee, the critical importance of these three concerns is implicit in the wording of the state legislature's Appropriations Bill 2001-2002 (HB 2038/SB 2000), which states, "The University of Tennessee Board of Trustees and the Tennessee Board of Regents should study their operations to determine how they can operate more efficiently and with more limited resources." As constituents of the Tennessee Board of Regents, the thirteen community colleges of Tennessee were thrust into the center of an initiative entitled "Defining Our Future", which was established to respond to the Legislature's directive. Six Action Groups were formed on these key issues: Accountability, Efficiency, Academic Excellence, Access, Workforce Development, and Articulation & Completion. Each action group produced a report that included priorities, recommendations and benchmarks that rely extensively on the functions of the colleges' offices of institutional research (Manning, 2001). More than ever before, the "Defining Our Future" initiative underscored the role of the office of Institutional Research as key in regards to information processing, effective technology application, and decision-support by Tennessee community college presidents.

This study intended to gather descriptive data in order to describe the functions of the offices of institutional research and the extent of their utilization of technology in the thirteen community colleges of Tennessee. In order to link this descriptive data with the campus governance and leadership, this study also gathered qualitative data via interview responses from Tennessee community college presidents regarding their perceptions of the roles of institutional research and their means of using institutional research in decision-making.

During the 1960's, a new player appeared on the field of American higher education: the community college. Rooted in the ideal of opportunity for all and responding to a growing need for applied education and workforce development in an increasingly technical society, the community college movement exhibited dynamic growth throughout the 1970's and 1980's. However, this growth was not generally accompanied by sufficient use and support of a formal institutional research function (Ray, 1993). In the past decade, the call for institutional effectiveness, the competitive pressures of new market forces, and the heightened demand for institutional accountability have placed significant pressures on offices of institutional research at community colleges. Simultaneously, the rapid rollout of new technologies in the 1990's has placed new resources – and new demands – on offices of institutional research as well as on the decision-making process of college leaders (Howard, 2001).

The requirements of institutional effectiveness mandates on institutions of higher education altered the responsibility of the institutional research function absolutely. Institutional effectiveness is explicitly at the heart of the Southern Association of Colleges and Schools (SACS) Commission on Colleges philosophy of accreditation. The

2001 SACS Principles of Accreditation provide a concise explanation of institutional

effectiveness as follows:

> The institution identifies expected outcomes for its educational programs and its administrative and educational support services; assesses whether it achieves these outcomes; and provides evidence of improvement based on analysis of those results (SACS, 2001).

The pursuit of effectiveness and the concomitant quest for quality mandated a

comprehensive system of planning and evaluation throughout each institution. The role of

institutional research in addressing this mandate is clear and is stated in the text of

accreditation criteria: "Institutional research must be an integral part of the planning and

evaluation process" (Southern Association of Colleges and Schools, 1998). Equally, the

institutional research function must be effective in collecting and analyzing data and

disseminating results. The importance of the institutional research responsibility was

suggested in 1987 when the Commission on Colleges of the Southern Association of

Colleges and Schools (SACS) implemented Criteria for Accreditation that strongly

emphasized institutional effectiveness (SACS, 1987). The role of institutional research in

supporting institutional effectiveness programs through quantitative measurements was

explicit and exacting. SACS recommended a set of twenty institutional research activities

in its guidelines (SACS, 1987). Community colleges in the Southeast were not commonly

quick to respond to this challenge. As presented in a foundation study of institutional

research at southeastern community colleges performed by Ray in 1991, the functions of

institutional research at two-year public colleges were not adequately defined nor

supported. In general, allocations of time, funds and personnel at the community college

were found to be inadequate to enable offices of institutional research to address the

3

guidelines set forth by SACS and generally insufficient for community colleges to plan for the future (Ray, 1991). More recently, a study of Texas institutional research offices demonstrated that they are understaffed to carry out all of the activities required to support the school's planning and evaluation efforts (Brandt, 1998).

Market forces, particularly the rapid development of proprietary colleges utilizing a blend of high technology delivery systems with traditional classroom environments, have further pressured community colleges to assess and monitor their competitive position in providing traditional services such as transfer education, career programs, and workforce development. Proprietary institutions have recognized that utilization of the Internet is a viable alternative to traditional classroom delivery especially for the adult working professional, an important market for continuing education functions of community colleges (Blustain, Goldstein, and Lozier, 1999). Classes taught via the Internet become virtual learning communities, communities unbounded by physical space (McLellan, 1998). The University of Phoenix, a subsidiary of the Apollo Group, has penetrated markets across the United States. Jones International University has become the first Internet-only school to be accredited to grant college degrees (Gehl and Douglas, 1999). Institutions that were once only correspondence schools such as the ITT Technical Institute have vigorously entered the race for vocational training through on-line and hybrid delivery systems as well as by the establishment of traditional student cohorts. Workforce development functions are being assumed by entrepreneurial partners such as the new ACT Centers, which provide a library of certification and training tools via on-line resources to business and industry (ACT Center POA, 2001). To compete successfully in this market, community colleges must think strategically about how to

position themselves and present their educational services (Bers, 1999). Institutional researchers can play (and are expected to play) a vital role in assessing the impact of these forces and developing strategies to successfully respond (Sanders, 1999).

Finally, but perhaps most significantly, accountability is being mandated by the clients and sponsors of higher education (Massy, 1994). At a national level, a serious concern has been raised regarding the affordability of higher education (National Commission on Responsibilities for Financing Postsecondary Education, 1993). Several southeastern states including Tennessee implemented performance funding formulas that set specific expectations for public colleges in the late 1980's (Banta, 1988). The movement towards performance funding gained national momentum as demonstrated by a 1999 Rockefeller Institute survey found that 30 states either have added or are considering adding performance as part of the budgeting process for public colleges and universities (Burke, 1999). Specifically, Tennessee's prescriptive standards include program review, program accreditation, major field assessment, general education outcomes, alumni satisfaction surveys, and improvement measures (Ray, 1991). More recently, the Tennessee legislature passed a mandate that the governing boards of both the University of Tennessee and the Tennessee Board of Regents should study their operations to determine how they can operate more efficiently and with more limited resources. In addition, the P-16 movement, which advocates a seamless and dynamic transition from high school to college, will place additional accountability parameters on Tennessee community colleges. Dr. Rich Rhoda, Executive Director of the Tennessee Higher Education Commission, stated at a Tennessee Board of Regents forum on the P-16 initiative that a specific goal should be to align K-12 standards with college entrance

expectations. At that same conference, Dr. Dennis Jones, President of the National Center for Higher Education Management Systems, advised that multiple sets of measures are required and data must not only be collected, but also analyzed. These new demands for greater accountability create greater demands for institutional information (Wells, Silk and Torres, 1999). As public institutions whose funding is dependent upon federal and state allocations, the community college must be increasing diligent in collecting, analyzing and presenting findings that underscore its accountability.

These three issues – institutional effectiveness, competitive market forces, and demand for accountability - have accentuated the need to embrace new technologies as an indispensable instrument in meeting the mounting requirements placed on the community college institutional research office (Volkwein, 1999). In the 1990's, the accelerated advances of technology forever changed both higher education and institutional research. These advances dramatically changed the way information is gathered, analyzed, and communicated (Delaney, 1997). New technologies in high-speed communication, data storage, microprocessor capabilities, and digitization of information have driven this change. Complex and speedy network infrastructures, the Internet, and World Wide Web technologies have further propelled this change by creating new ways to make data and findings available to customers and cohorts (Chan, 1999). However, while the expectations of and opportunities afforded by new technologies are great, implementation in offices of institutional research, as elsewhere on college campuses, may be slow, complex, and costly (Sanders, 1999). How well community college presidents and their institutional research offices respond to the challenges of new technology may provide

important insight on how well the community college can meet the inevitable demands of institutional effectiveness, market competition, and accountability.

However adept offices of institutional research may become regarding technology utilization to address the demands of institutional effectiveness, market competition, and accountability, community colleges will only benefit if their leaders effectively utilize the resource of institutional research. "The most significant difference between effective quality leaders and other leaders is their willingness to learn and the way in which they collect, process, and share information" ("Study Uncovers," 1994). In a study of community college leadership, Lawrence Wharton remarks, "Anyone seeking to exercise leadership must have very active conduits of information from two primary sources: him- or herself and the organization's inner and outer environments. Information must be free-flowing, and it must include challenging, disconcerting, and disconfirming information" (Wharton, 1997). It is evident that the office of institutional research is a key conduit of information within and between an organization's inner and outer environments.

In the Tennessee Board of Regents community colleges, requirements of both the performance funding formula and the Defining Our Future initiative heighten the importance of the institutional research function. This study addressed the current roles and responsibilities of institutional research offices, described both the types of technology and level of utilization of technology in the offices of institutional research, and presented the perspectives of Tennessee's community college presidents on the institutional research function.

Purposes of the Study

This study was limited to the thirteen public community colleges in Tennessee. The purposes of this study were 1) to gather descriptive data in order to define the roles and responsibilities of the office of institutional research; 2) to collect data that describe the type and level of utilization of new technologies by offices of institutional research; and 3) to determine the perceptions and utilization of the office of institutional research by each Tennessee community college president.

Research Questions

Specific research questions that were examined in this study are as follows:

1. How are offices of institutional research organized at Tennessee community colleges?

2. What are the characteristics of the person whose fundamental responsibility is to direct the institutional research function at Tennessee community colleges?

3. What are the fundamental functions of the office of institutional research?

4. What institutional research functions do directors of institutional research perceive to be most valuable to their respective community college?

5. Do the directors of offices of institutional research devote time to those functions perceived by them to be most valuable?

6. What information technology resources are available to and used by the directors of the office of institutional research?

7. What are the level of use and the importance of information technology in offices of institutional research compared to the perception of the importance of that use by institutional researchers?

8. How do college presidents' perceive the roles and functions of institutional research at their respective colleges?

9. How do college presidents use institutional research to support decision-making?

10. What are specific examples of the ways that college presidents use institutional research to support decision-making?

Significance of the Study

Given the current academic, economic, and political climate, which compels institutions of higher education to document evidence of effectiveness, successfully encounter new competitive forces in the marketplace, and meet the increasingly stringent demands of stakeholders for accountability, this study will provide community college leaders and stakeholders with information that will allow for a fuller understanding of the roles and responsibilities of offices of institutional research as well as the demands and opportunities that new technologies afford the institutional research function. This study will provide community colleges, specifically those in Tennessee, with descriptive data from which to assess current status of institutional research functions and to help plan for future challenges. This study will also provide baseline data for future studies that focus on specific responsibility areas of institutional research and/or the impact of a specific technology. This study may provide individual state community college systems throughout the United States with benchmark data for their own assessment of institutional research through its technology utilization and by its impact on decision-making by community college presidents.

Assumptions

This study was based upon the following assumptions:

1. The director of the institutional research function at a community college is knowledgeable about the characteristics of the institutional research office.

2. The director of the institutional research function provides accurate information to survey questions.

3. The college president of each institution is knowledgeable about the characteristics of the institutional research office and his or her use of that office's resources in decision-making and provides accurate information in response to the interview questions.

Limitations and Delimitations

The following limitations of this study were identified as follows:

1. The study is limited by the willingness of the directors of institutional research to complete and return the survey document.

2. The study is limited by the extent to which those directors completed the survey accurately and thoroughly.

3. The study is limited by the willingness of the community college presidents to openly discuss their perspectives and use of their offices of institutional research and thus by the content of those interviews.

The following delimitations of this study were identified as follows:

1. The population of the survey includes the directors of the offices of institutional research and presidents at the 13 community colleges identified by the Tennessee Board of Regents (TBR).

2. The survey instrument will be distributed only to the designated primary officer of institutional research, referred to in this study as the Director of Institutional Research. Other college personnel who perform institutional research related functions and may be named consultants, assistants, support staff, or other titles will not be included in this study.

3. Findings of the study are based upon the total of the responses to the survey and interviews.

4. The study is delimited by the content of these two instruments and the data collected via these two instruments.

Definition of Terms

The following statements define selected terms as they were utilized in the study:

Institutional research is research conducted within an institution of higher education to provide information that supports institutional planning, policy formation and decision-making.

Director of Institutional Research refers to that individual with primary responsibility for the institutional research functions at a community college. This person's title may be something other than "director".

Information technology refers broadly and inclusively to devices that provide digitization of information in the forms of text, images, sound or data streams; high speed

communication via bandwidth to transmit digitized data; data storage systems for efficient storeroom and access functions; and microprocessing capability to provide individualized access to data and to manipulate said data with speed and accuracy.

New technologies refer to recent and unfolding innovations in information technology.

Infrastructure refers to the systemic linkage of individual computer stations with one another or with database and data storage sites.

Summary of Chapter 1

The purpose of this chapter was first to provide an overview of the status of the institutional research function in higher education with a specific emphasis on the community college environment. This chapter presented the need for a study to discern the current roles and responsibilities of the office of institutional research at Tennessee community colleges, the level and effect of technology utilization at those colleges, and the uses of institutional research by their presidents for decision-making. This chapter also introduced the major forces that presently affect the functions of community college institutional research. These were identified as institutional effectiveness, market competition, and accountability. The purpose and the significance of the study were stated and the guiding research questions were delineated. Finally, limitations, delimitations and terms intrinsic to the study were defined.

Organization of the Study

This study was organized in the following manner:

Chapter 1 provides an introduction to the study consisting of a background, statement of the problem, and research questions. This chapter also includes the significance and assumptions of the study. Finally, the limitations, delimitations and definitions are included in this chapter.

Chapter 2 includes a review of the literature related to the study. Specifically, it covers a brief overview of the role of institutional research in higher education and its use by the presidents of community colleges in Tennessee.

Chapter 3 presents the methodology of the study. It describes the populations addressed in the study, collection of the data, and analysis of the data.

Chapter 4 contains study findings and the analysis and interpretation of the data.

Chapter 5 presents a summary of the research and findings and draws conclusions from the findings. This section also includes a discussion by the researcher regarding implications of the study. Finally, this section presents recommendations for further study.

CHAPTER 2

REVIEW OF THE LITERATURE

Introduction

The purposes of this study were to gather descriptive data in order to define the roles and responsibilities of the office of institutional research; to collect data that describe the type and level of utilization of new technologies by offices of institutional research; and to determine the perceptions and utilization of the office of institutional research by each Tennessee community college president. The review of related literature provides a perspective on four significant themes central to this study. These four themes are the following: 1) the functions, roles and responsibilities of offices of institutional research; 2) a concise history of the evolution of the institutional research function, including the contributions of studies that focus on the community college; 3) a presentation of studies and perspectives on the use of technology by offices of institutional research; and 4) the role of community college presidents as leaders in the use of institutional research in decision-making.

Functions, Roles, and Responsibilities of Offices of Institutional Research

A fundamental challenge faced by the all offices of institutional research is to clearly and completely define its primary functions. A study of the literature reveals not only the range of definitions of institutional research functions, but also the seeming incongruity of those functions. Thirty years ago, Dressel stated, "the basic purpose of institutional research is to probe deeply into the workings of an institution for evidence of

weaknesses or flaws which interfere with the attainment of its purposes or which utilize an undue amount of resources in so doing. In the search for flaws, no function, individual, or unity should be regarded as of limit" (Dressel, 1971). This watchdog task is juxtaposed with a more recent definition of purpose proposed at the 1996 Annual Conference of the Southeastern Association for Community College Research: "Moreover, the general purposes for conducting institutional research have remained constant in that the first purpose is still public relations. The need to satisfy external agencies has caused the colleges to value anything that makes the school look good and to avoid anything that casts a negative light on the institution" (Cohen, 1996). The evident contrast between institutional watchdog and institutional public relations purveyor is complicated by a third definition of function that places institutional research in the position of a central information resource, not as a mission-specific entity: "Institutional research (is seen) as an institutional function or activity in the middle – an intermediary function that links the educational, governance and information functions of institutions of higher education" (Peterson, 1984). A more comprehensive and proactive statement of function was advanced by Saupe who contends, "Institutional research is research conducted within an institution of higher education to provide information, which supports institutional planning, policy formation and decision making." He distinguishes institutional research from academic or scholarly research, which has as its purpose the advancement about postsecondary education generally (Saupe, 1990). In a study of the role of institutional research on college management, Seybert contests that the focus of institutional research necessarily includes both internal and external

environments (Seybert, 1991). This expanded view of institutional research has now become the norm.

What is readily apparent from a review of the literature is that the definition of the function of institutional research is ever-increasing in scope. More recently, Terenzini advanced the conception of institutional research as organizational intelligence composed of data gathered about an institutional, analysis of those data, and insights gained from such analysis (Terenzini, 1993). It is more and more acknowledged that, beyond the traditional function of gathering and analyzing data, institutional researchers must also be planners (Matier, 1995). A review of these statements regarding the purpose of institutional research from the literature suggests that the roles and responsibilities of institutional research will continue to evolve in response to both needs and opportunities.

These roles and responsibilities have been characterized in several fashions. One approach is to present the objectives of institutional research reports as a template for describing roles and responsibilities. Generally, institutional research reports serve one or more of six objectives: 1) data transmission; 2) data preservation; 3) data interpretation; 4) issue identification; 5) issue resolution; and 6) evaluation (Jones, 1996). Achieving these objectives defines the functions of institutional research. A related perspective suggests that the college fact book represents, "the quintessential institutional research report – a work defining the essence of the profession, a work embodying the core principles, values and skills" (Marks, 1996). However, the fact book again suggests the conundrum implicit in institutional research: accurately and honestly investigating the institution while simultaneously offering a positive public picture of that institution. Volkwein, who presents a typology of the field that demonstrates the inherent tensions

and dualistic nature of institutional research, addresses this seeming dilemma. He suggests the following four purposes and roles that, while sometimes at odds, exist concurrently in institutional research (IR) offices:

1. IR as information authority – to describe the institution

2. IR as spin doctor – to present the best case

3. IR as policy analyst – to analyze alternatives

4. IR as scholar and researcher – to supply impartial evidence of effectiveness

Though the boundaries around these roles may blur and, in practice, the transition between them might be instantaneous, all are vital to the college's effectiveness (Volkwein, 1999).

Gutter asserted that the roles of institutional research are equally complex and extensive at community colleges in a study of two year colleges. He stated that the role of institutional research at community colleges had continued to evolve as institutions responded to a changing set of needs (Gutter, 1987). Rowh's study of SACS accredited community colleges uncovered a discrepancy between the tasks most frequently performed by institutional researchers and those tasks that should be performed but were not (Rowh, 1990). The evolution of these seemingly incongruent roles can be better understood by examining the history of the institutional research function with a particular emphasis on the changing roles of institutional research at community colleges.

Historical Evolution of Institutional Research

A chronology of the development of institutional research as an administrative function in American higher education begins with studies of mission and programs at such New England universities as Harvard and Yale in the early 18th century (Cowley, 1959). By the early 1900's, a national focus on efficiency led to the establishment of offices of institutional research at mid-western universities including the University of Michigan, the University of Minnesota, and Ohio State University (Tetlow, 1979). However, it was not until after World War II that the development of institutional research as an increasingly integrated element in higher education management began in earnest (Peterson, 1999).

The 1950's and 1960's were a time of dynamic growth and expansion in American colleges. A significant portion of this growth is attributed to the effects of the GI Bill for both World War II and Korean War veterans of who more than 2.3 million enrolled in junior or community colleges (Witt, 1994). As growth and expansion continued, and as both public support and government financial investment increased, institutions were compelled to provide direction for growth as well as to account for the ever-expanding resources provided to them.

In this context, several significant studies of community college institutional research functions were performed in the 1960's. Swanson performed a study of all 669 members of the American Association of Junior Colleges (AAJC) in 1964. Of those surveyed, 336 responded including two-thirds of the public institutions polled. It was determined that fewer than 20% of the colleges had a formal institutional research office

and that of the remaining 80% few did little or no research (Swanson, 1965). Roueche and Boggs performed a subsequent study of research reports performed and desired by junior colleges in 1967. They found that the average number of reports done each year was 1.1. Again, only about 20% of the colleges had a formal institutional research office. However, 44% cited institutional research functions as a responsibility shared among faculty and administrative groups (Roueche, 1968).

Steady growth of a formal institutional research function at the community college in the 1960's, paralleling the growth of colleges and enrollments, is indicated by studies performed by Roney and Van Istendal. Roney conducted a national survey of institutions that had a membership in the Association for Institutional Research (AIR). He determined that the average time an IR office had existed was less than five years (Roney, 1969). Moreover, 50% of the institutional research office directors were part-time. Van Istendal's national study of a random selection of community colleges showed that only one-third of the colleges had a formal institutional research function. However, both age and size of the institutions correlated positively with size, staffing and support of the IR function (Van Istendal, 1969).

Disruptive changes in the American collegiate scene during the late 1960's and 1970's changed the focus of many institutional research offices from internally focused descriptive studies to externally focused market, image, and planning functions. Such factors as social unrest, civil rights, the Vietnam conflict, and women's movements as well as the growth of state systems prompted colleges, especially public institutions, to be more outward-oriented (Peterson, 1999). Several studies of the relationship of institutional research functions with such information-based needs as long and short term

19

planning, decision-making, policy formulation, educational quality, environmental opportunities, and market strategy demonstrated the growing importance of institutional research to administrative effectiveness (Clyburn, 1988). By 1973, a survey of 361 two-year colleges randomly selected from the 1,090 colleges then listed in the Junior College Directory showed that 38% had a formal office of institutional research while 12% planned to establish one within five years (Broderick, 1973). In 1975, a study focused on responses of community college presidents identified 50% of the institutions as having offices of institutional research (Greenburg, 1975). Still, the primary function of institutional research remained focused on students and related activities as admissions, registration, and enrollment. There remained a gap between institutional need and actual practice (Gutter, 1987).

Multiple factors defined new institutional needs for institutional research offices in the mid-1970's to early 1980's. These included an economic recession and the impending end to the post-war baby boom era signaling an end to burgeoning enrollment growth of traditional students (Peterson, 1999). In addition, changes in funding to colleges by the Federal government as outlined in the 1972 Higher Education Amendments shifted aid distribution directly to students. Moreover, the inclusion of the term "postsecondary education" in the legislation broadened the competitive landscape in the market for future students. These changes prompted colleges to pursue two agendas vigorously: attract new students and improve internal efficiency (Peterson, 1984).

Attracting new students to college campuses encouraged colleges to become organized in terms of market-oriented models along with other traditional, non-profit organizations (Kotler, 1975). This required a more thorough understanding of market

conditions, which was supported by information provided by institutional research (Lucas, 1979). Focus on the student market engendered an entire field of enrollment management, which is the collected effort of a college to influence the size and characteristics of its student body. A well-designed and well-executed institutional research function is the key to successful enrollment management (Clagett, 1992). It is evident that since mid-1970 an ongoing theme of higher education is that it will continue to be market driven and highly sensitive to community support (Gaither, 1994).

To achieve the objective of improving internal efficiency, institutional researchers were called upon to play active roles in planning and quality improvement. Both long-range and short-term planning required the assistance of institutional research (Paola, 1971). Effective administrative planning relied upon information supplied by institutional research (Hefferlin, 1971). Institutional researchers became increasingly cognizant of the need to link information gathering to use of that information in planning and decision-making (Stufflebeam, 1971). As the 1970's progressed, a greater emphasis was placed on utilization-focused evaluation (Patton, 1978). Four roles that information can play in decision making include identifying problems and alternatives, establishing a context for decision making, inducing action, and promoting action (Ewell, 1984). Kinnick provided further elaboration of the relationship between student outcomes and information obtained by institutional research and college planning. He presented four contributions of such information to decision-making including problem identification, solution development, program improvement, and policy change (Kinnick, 1985).

The second element of improving internal efficiency by colleges and universities was an emphasis on quality improvement. Providing quantifiable evidence that higher

21

education was worth the investment in time and cost became a new responsibility for institutional research. The increasing importance of a higher education degree in securing and keeping a high-paying job, the market savvy of the new generation of prospective college students, and the proportionately higher cost of higher education all helped to create pressure on academic institutions to prove that they are apt to provide an advantageous return on investment (Gaither, 1994). In this increasingly competitive higher education environment, institutional research was seen as a way to identify educational "best practices" and sustain quality (Stewart, 1975). Institutional quality could be strengthened through institutional research (Hartnett, 1975).

In the mid 1980's and early 1990's, performance assessment was viewed as an integral part of the quality improvement movement, which had became increasingly popular in the world of business and industry as a way to bolster economic strength (Peterson, 1999). Resultantly, public pressure for quality assurance in education placed a national focus on assessment (Rossman, 1987). This emphasis on quality continued into the 1990's as demonstrated by a 1992 grant from the Fund for the Improvement of Post-secondary Education (FISPE) supporting research by the Education Commission of the States (ECS). This research was conducted in ten states (including the southeastern states of Tennessee, Texas, Kentucky, South Carolina and Virginia) to link education indicators to concepts of what quality means as an aspect of teaching and learning (Gaither, 1994).

The quality improvement movement, spurred by broad-based criticism of American higher education (Study Group on conditions of Excellence in American Higher Education, 1984), challenged colleges and universities to institute some means of demonstrating outcomes. In a speech before the American Council on Education,

Secretary of Education William Bennett stated that, "Colleges should state their goals, measure their success in meeting those goals, and make the results available to everyone… If institutions don't assess their own performance, others – either states or commercial outfits – will most likely do it" (Chronicle of Education, 1985). Bennett's admonition was quickly followed by a special report by the Council on Postsecondary Accreditation (COPA) in 1986 entitled *Educational Quality and Accreditation*. Among other recommendations, this report urged academic institutions to "sharpen statements of mission and objectives to identify intended educational outcomes" and "develop additional effective means of assessing learning outcomes and results" (COPA, 1986). In rapid response, the Commission of Colleges of the Southern Association of Colleges and Schools (SACS) brought about major changes in its accrediting procedures in which outcomes assessment – defined as "institutional effectiveness" by SACS – was given equal status to institutional processes in its Criteria for Accreditation (Nichols, 1989). A study by Ray in 1992 linked this new criterion of institutional effectiveness to the functions of community college offices of institutional research in the Southeast. Sixty-one percent of respondents to his survey listed "preparing reports for SACS" as being critically important (Ray, 1992).

Thus, institutions of higher education were now asked to define measures of institutional and instructional quality as well as means by which student outcomes could substantiate claims of a quality educational experience (Peterson, 1999). This movement towards measuring the effectiveness of higher education institutions quickly drew offices of institutional research into the fray. Organizational effectiveness had been recognized as a multivariate, multidimensional construct (Cameron, 1978). In a study by Rigdon, it

was posited that the institutional research function could be utilized in either an adaptive or a maintenance mechanism. This research demonstrated that institutions that utilized their institutional research function in an adaptive way would demonstrate a higher measure of effectiveness than those who emphasized the maintenance function of institutional research. This was found to be true in two significant measures of organizational effectiveness, the academic dimension and the external dimension (Rigdon, 1983).

This emphasis on total institutional functioning placed new demands on offices of institutional research. These included such activities as strategic planning studies and mission reviews; marketing and recruitment studies; student, faculty, and program evaluation and assessment reports; utilization studies; design of decision support systems; administrative staff studies; and policy analysis (Fincher, 1985). Moreover, the institutional effectiveness movement placed additional importance on performance indicators as measures of institutional quality and thus made additional demands on offices of institutional research to discern effective means of identifying and measuring those performance indicators.

The institutional effectiveness model also altered the emphasis on performance indicators from quantity to quality and thus altered and expanded the types of data collection, analysis and reporting techniques required of institutional research offices. Three types of performance indicators have been used to measure the quality of a process: inputs, outputs, and critical process points (Gaither, 1994). The emphasis on institutional effectiveness compelled institutions to question whether traditional measures of quality are valid. For example, given that one input is the quality of instructors, is the

24

number of publications in a refereed journal by an instructor an indicator of excellence in teaching? Equally, is the number of graduates an adequate measure of effectiveness, or is it more important to measure what level of pay graduates' first jobs offer or what quality of further higher education institution they enter after graduation? Ultimately, an emphasis on the third type of performance indicator – critical process points – led to entirely new focal points of institutional research. For example, surveys had to be developed to answer such questions as how many students utilize study groups or engage in library research or consult with academic advisors? These and other process-oriented appraisals have become significant responsibilities of institutional research in support of institutional effectiveness functions.

One such major responsibility related to the institutional effectiveness support function has been the guidance of academic program reviews by offices of institutional research. The program review process responds to the external demand for accountability and the internal demand for program improvement (Hanson, 1992). Hanson identifies a twelve-step process for program review that begins with identifying the problem and ends with reporting the data. Numerous barriers to the success of such a review have been identified. These range from the philosophical resistance to the concept of a program review by faculty to the pragmatic limitation of time and funds provided by the administration (Astin, 1991). The impact of the program review process in the community college was examined by Hoey who found that, while the program review is widely used as an accountability and program improvement mechanism, questions remained regarding its overall utility given the tremendous amount of time and resources devoted to such practices (Hoey, 1995). Despite limited resources for institutional

research offices, the demands of supporting institutional effectiveness programs like program reviews may increase in proportion to demands for accountability in higher education.

In addition to the support of institutional effectiveness functions, new roles continued to be identified for institutional research offices in the late 1990's and into the 21st century. The essence of many of these new roles are contained in the relationship of institutional research to the decision making process. Morrison contends that the success of higher education is dependent upon senior leaders' ability to adapt to a rapidly changing external environment. He suggests that a significant role of institutional research will be to understand and implement environmental scanning as a method to connect the external environment with the decision-making processes of the institution (Morrison, 1995).

Matier proposed three new roles for institutional researchers, those of information architects, change agents, and consultants of choice. As information architects, institutional researchers must bring a university-wide, analytical perspective to data collection systems and thus aid in their conceptualization, design, and accessibility. As change agents, Matier suggests that institutional researchers must don the robes of facilitators in order to assist campus groups to develop complex, collaborative planning processes. This function will require application of process-design and process-management expertise by institutional researchers. Finally, he maintains that the institutional research office of the future will serve as the internal consultant of choice. Because traditional academic divisions as well as new, cross-departmental groups will require more guidance and support for action planning, effectiveness programs and

assessment initiatives, the institutional research office will be called upon for guidance and support (Matier, 1995).

These anticipated new roles for institutional research are supported by a study by Delaney of both two year and four-year higher education institutions in New England. Data collected and analyzed indicate the need to enhance the presence, qualifications, and level of activity of institutional researchers in order to strengthen their contribution to institutional decision-making. Recommendations address the need to (1) enhance the capacity for conducting complex research studies, (2) shift the focus from reporting to research, (3) strengthen the capacity for institutional research at small colleges, (4) create and support high level audiences for institutional research studies, (5) increase involvement in academic studies, and (6) expand the focus of institutional research to include relevant factors and trends in the external environment (Delaney, 1997).

Clearly, changes in the external environment are potentially so dramatic that Peterson, in an assessment of institutional research functions, identifies "an emerging postsecondary knowledge industry" (Peterson, 1999). To meet the challenges of competing in this new paradigm, traditional colleges and universities will call upon institutional researchers to become "proactive management guides" helping to assess institutions of higher education to assess both their readiness and capacity for institutional redesign (Peterson, 1999).

The history of the office of institutional research suggests an evolution of expanding scope and complexity. Wells (1999) chronicles the changing roles of institutional research offices from *Reporter* to *Information Architect* by citing the products issued by institutional research offices over time. He begins with the role of

27

Reporter, which produced fact books and trend reports. Next came *Interpreter*, which

produced multivariate studies and survey research reports. As institutional research

offices became more outward oriented, Wells identifies their role as *Market Researcher*,

which developed reports on enrollment management, environmental scans, and labor

market research. The next function to evolve was that of *Policy Analyst*, which included

responsibilities for institutional effectiveness, program evaluation, and implementation

studies. That role melded into what Wells calls the *College Advocate*, where institutional

researchers drafted position papers and interpretive reports. The final stage is that of

Information Architect, which entails information systems design, end-user interfaces, and

a web presence for institutional research offices. The identification of the newest role of

institutional research as Information Architect suggests a further and more extensive

examination of the growing demands that information technology - both as a societal

phenomenon and a workplace tool - places on offices of institutional research.

Impact of Information Technology on Institutional Research

Of manifest effect on the changing function of institutional research is the

exponentially expanding role of technology in the educational environment. Institutional

researchers have been at the lead of this movement. As few as ten years ago, Matsen

found that most top level administrators in community colleges do not use computers to

access institutional data for their own use in decision making. Instead they rely on others

to provide them with data from college databases. Institutional researchers, as

interpreters, "play an important part in constructing reality for the college" (Matsen,

1991). In the past decade, this responsibility for not only collecting data, but for compiling, organizing, interpreting, and applying this data to college needs and expectations has been linked inextricably with technological innovations. Terrazini identifies technical/analytical intelligence, which he describes to include competence in, "database development; research design and methods; and mainframe and personal computing" as prerequisite abilities for institutional researchers (Terrazini, 1993). Emerging technologies compel institutional researchers to both understand the informational needs of the organization as well as to design an infrastructure supportive of expanded access to information and enhanced understanding (Wells, 1999). Liz Sanders, founder and director of the Office of Information and Institutional Research at Illinois Institute of Technology, provides this overview:

> Information technology is changing the face of institutional research. But this is not a new phenomenon… What is striking today, however, is the rate of change driven by advances in information technology - in computers, networks, and telecommunications – and the sustained rate of change pervasive in higher education (Sanders, 1999).

Information technology has changed the day-to-day operation of offices of institutional research in several significant ways.

Three imminent information technology-based approaches directly related to traditional institutional research purposes of analyzing, managing, and disseminating information include knowledge management, data warehousing, and electronic commerce (Chan, 1999). Knowledge management entails the integration of three fundamental types of institutional knowledge: external knowledge derived from sources such as analyst reports and market research; structured internal knowledge such as research reports and

survey results; and informal internal knowledge such as discussion or focus group result databases. The relevance to higher education is apparent in such applications as open exchange of teaching and learning methods, shared training materials and methods, and integrated student support services. Institutional research offices are in many cases spearheading knowledge management programs, functioning as information architects to map information and create knowledge structure (Wells, 1999).

A second information technology development impacting institutional research functions is that of data warehousing. Data warehousing is the process of collecting data to be stored in a managed database in which the data are subject-oriented and integrated (Chan, 1999). This involves the movement of transactional databases that contain only raw data to an analytical database designed for queries and reports that can be effectively used to support decision-making. While expensive and complex to implement, data warehousing has distinct benefits for higher education, markedly in distributed decision making functions such as budget management or student enrollment/retention processes. Regarding the institutional research function, data warehousing potentially shifts and distributes the analytical responsibility from the IR office to decision-makers in academic and administrative offices. However, designing data warehouses and coordinating institution-wide training for decision support systems (DSS) or executive information systems (EIS) represent new challenges for the institutional research office (Chan, 1999).

A third information technology enhancement to society at large that is rapidly changing the face of higher education, and thus institutional research, is the expanding nature of electronic commerce. Regarding higher education, Internet-based services,

online distance education programs, and intranet applications are fast becoming givens whose potential for expansion is unlimited. Regarding Internet-based services, institutional researchers will need to include such popular Internet uses as registration, financial aid application, registration, and student grade receipt in such traditional functions as needs assessment, satisfaction surveys and planning reports. The growth of the Web as an information management tool has added the role of *webmaster* to many IR offices (Schaefer, 1999). In addition, the explosion in Internet-based distance education poses huge challenges for institutional researchers. Traditional tools such as student satisfaction surveys and student evaluation of faculty must now consider and include elements unique to the distant learner (Bers, 1999). Regarding effectiveness, while studies have shown that student outcomes and achievements were not significantly impacted by the use of distance learning technologies (Dodd, 2001), offices of institutional research will inevitably be expected to implement criteria and measurement systems to continuously validate that finding within their respective institutions.

Similar to new challenges posed by Internet applications, the college intranet setting offers a potentially highly effective tool for both data collection and dissemination. However, as student-consumers and other constituent groups become more sophisticated and insistent on swift and accurate information, the demands on offices of institutional research to respond ever more quickly and correctly will increase (Chan, 1999). Intranet capabilities also foster an anytime, anywhere work environment. In this context, intranet-based collaborative work groups can be formed that require additional IR guidance and support (Sanders, 1999). All of these expectations suggest

31

that the roles and responsibilities of institutional researchers are inextricably bound to the impacts of instructional and information technologies.

However adept offices of institutional research may become regarding technology utilization to address the demands of institutional effectiveness, market competition, and accountability, community colleges will only benefit if their leaders effectively utilize the resource of institutional research. "The most significant difference between effective quality leaders and other leaders is their willingness to learn and the way in which they collect, process, and share information" ("Study Uncovers," 1994). In a study of community college leadership, Lawrence Wharton remarks, "Anyone seeking to exercise leadership must have very active conduits of information from two primary sources: him- or herself and the organization's inner and outer environments. Information must be free-flowing, and it must include challenging, disconcerting, and disconfirming information" (Wharton, 1997). It is evident that the office of institutional research is a key conduit of information within and between an organization's inner and outer environments.

In the Tennessee Board of Regents community colleges, requirements of both the performance funding formula and the Defining Our Future initiative heightened the importance of the institutional research function. This study addressed the current roles and responsibilities of institutional research offices, described both the types of technology and level of utilization of technology in the offices of institutional research, and presented the perspectives of Tennessee's community college presidents on the institutional research function.

Summary of Chapter 2

This review of the literature presented a summation of research and study on the roles of the offices of institutional research, the history of higher education institutional research, the use of technology in institutional research, and the use of the services of institutional research by community college presidents in decision-making.

CHAPTER 3

METHODS AND PROCEDURES

Introduction

The purposes of this study were as follows: 1) to gather descriptive data in order to define the roles and responsibilities of the office of institutional research; 2) to collect data that describe the type and level of utilization of new technologies by offices of institutional research; and 3) to determine the perceptions and utilization of the office of institutional research by each Tennessee community college president. This study was a descriptive research effort using both quantitative and qualitative instruments. To address purpose numbers 1 and 2, the researcher used a survey instrument specifically designed for this study. To address purpose number 3, the researcher used an interview protocol specifically designed for this study. This chapter presents information on the following: Survey Population, Survey Instrument, Interview Protocol Population, Interview Protocol, and Treatment of the Data.

Survey Population

The population for the survey consisted of the thirteen individuals who were identified as having the primary function of directing the office of institutional research at the thirteen community colleges of the Tennessee Board of Regents.

Survey Instrument

The survey questionnaire (Appendix A) was designed to obtain information from the population of offices of institutional research concerning roles, responsibilities and technology utilization. The starting point for the development of the instrument was a member survey used by the Association of Institutional Research in 1998. Additional sources for questions regarding roles and responsibilities of institutional researches included instruments used in previous research (Ray, 1993; Clyburne, 1990; Gutter, 1987). The development process of the survey instrument included the use of a peer review process of the instrument to establish validity. Institutional research professionals from colleges in the southeast were selected and sent the instrument for review and suggestions. Changes were made and the survey was resubmitted to the peer reviewers for final discernment and approval.

The survey was divided into four sections. The first section was designed to discern the characteristics of the Office of Institutional Research. In order to explain the organization of the offices of institutional research at Tennessee community colleges, data were gathered through the survey instrument regarding three criteria: 1) to whom in the college the IR office reports; 2) staffing characteristics of IR offices; and 3) titles of the chief officers of institutional research.

The second section of the survey instrument requested information about the characteristics of chief institutional research officers. Data were collected with regard to demographic information (age range, gender, and ethnicity), experience in institutional research, and education level attained.

The third section of the survey instrument was designed to discern the functions

35

of the Institutional Research Office as well as the importance of roles and responsibilities associated with IR Offices. The survey requested respondents to review the set of functions typically expected from offices of institutional research. If an item on that list was not a function of the respondent's office of institutional research, the NF (not a function) box was to be checked on the survey questionnaire. In addition to the list of functions presented in table format on the survey, two response boxes were provided for open-ended responses that gave respondents additional opportunity to clarify the functions of their respective office of institutional research. The table in Part 3 of the survey listed a total of 32 functions organized in the following seven categories: 1) Institution-wide functions (6 functions); 2) Efficiency considerations (5 functions); 3) Academic-centered functions (4 functions); 4) Student-centered functions (7 functions); 5) Information reporting (3 functions); 6) External relations (4 functions); 7) Other administrative duties (3 functions).

The respondents were asked to indicate the value of each of the 32 listed functions to their respective community college. A scale of 1 to 4 was used to indicate this value with 1 indicating little or no value, 2 indicating moderate value, 3 indicating high value, and 4 indicating very high value. If a given function was not performed by the office of institutional research, respondents were asked to check the NF column. Responses given in the NF column were not considered in averaging the mean and standard deviation. The survey of directors of institutional research also asked the respondents to indicate the amount of time spent on each of the 32 listed functions. A scale of 1 to 4 was used to indicate the time per week devoted to the function with 1 indicating less than once per week, 2 indicating one to two times per week, 3 indicating three to four times per week,

and 4 indicating daily and regularly. If a given function was not performed by the office of institutional research, respondents were asked to check the NT column. Responses given in the NT column were not considered in averaging the mean and standard deviation.

The fourth section of the survey asked the respondents to indicate the availability and the level of use of fifteen technology applications in their respective office of institutional research that had been established in the literature as relevant to the functions of institutional research. If a given application was not available to the office of institutional research, respondents were asked to check the NA column. The survey also provided an input box for respondents to describe any other technology used in their respective office. For those technologies that were available, respondents were asked to use a scale of 1 to 4 to indicate the level of current use of that technology with 1 indicating less than one time per week, 2 indicating one to two times per week, 3 indicating three to four times per week, and 4 if the technology application is used daily. Responses given in the NA column were not considered in averaging the mean and standard deviation for each criterion. The survey instrument also asked respondents to indicate the level of importance of the technology applications on a scale of 1 to 5 with 1 indicating very unimportant, 2 indicating unimportant, 3 indicating important, 4 indicating very important, and 5 indicating critical and essential. Responses given in the NA column were not considered in averaging the mean and standard deviation for the level of importance of each criterion.

To further illuminate the use of technology and the perception of its value by directors of institutional research, the survey instrument also asked respondents to list their top five technology-related needs. The technology needs listed were grouped into five categories as follows: 1 = training; 2 = software; 3 = hardware; 4 = staffing; and 5 = data warehousing development.

The instrument (Appendix A) was accompanied by a cover letter (Appendix B) and a stamped, return envelope. It was mailed to respondents in a traditional paper format. A companion instrument, identical in content but modified for electronic use, was provided to recipients of the survey upon request via email attachment. A follow up letter (Appendix C) plus either email messages or telephone calls were made 60 days after the initial mailing date to all non-respondents. There is no link between respondents and completed surveys. The data were used in the aggregate only and remain confidential.

Interview Protocol Population

The interview protocol population consisted of the thirteen Tennessee community colleges' presidents as identified by the Tennessee Board of Regents during the period of the interviews, which was April, 2003 through July, 2003.

Interview Protocol

An interview protocol (Appendix D) was developed that directly addresses the perceptions of college presidents regarding the roles of the office of institutional research and that president's use of that office for decision-making. Each of the thirteen sitting

community college presidents in Tennessee was contacted by a letter of introduction regarding the study with a follow-up telephone call to schedule the interview. Interviews were conducted in all but one case on the respective president's college campus and recorded by the researcher by notations following the interview protocol. Twelve of these interviews were held at the respective college president's office during April and May 2003; one was held in the researcher's office at Chattanooga State during the June 2003 quarterly meeting of the Tennessee Board of Regents. The protocol for these interviews (Appendix D) consisted of seven open-ended questions that explored each president's perspectives on institutional research roles, functions, and other aspects. Data from these interviews were collected by the researcher via copious and thorough hand-written notes. When necessary and appropriate, the researcher asked the interviewee for clarification, augmentation, or repetition of a statement or example. The researcher reread and reviewed each set of notes, then summarized statements by each president by the key function or role of institutional research presented by that president. These summary statements were then arranged in outline format beneath the protocol question that generated the response. After generating an interview summary response sheet for each president's statements, the researcher then coded the responses. The research applied a numeric code to each function cited by the presidents based upon the list of functions used in the Survey of Tennessee Community Colleges Offices of Institutional Research, section (3) Table of Functions (Appendix A). The frequency of response by the presidents regarding the different functions was recorded and tabulated. In the course of the thirteen interviews, eight additional institutional research functions were cited by presidents. These were not specifically included in the 32 functions cited on the survey,

39

and they included the following: grant applications, development support, quality team leadership, technology implementation leadership, training/communication with faculty/staff, community partnership support, outlying site support/coordination, and legislative liaison. An informed consent form (Appendix H) was reviewed and signed by each interviewee. Interview notes were transcribed and analyzed in terms of each protocol question. The data remain confidential.

Treatment of the Data

The data were used to address ten research questions as follows:

1. How are offices of institutional research organized at Tennessee community colleges?

2. What are the characteristics of the person whose fundamental responsibility is to direct the institutional research function at Tennessee community colleges?

3. What are the fundamental functions of the office of institutional research?

4. What institutional research functions do directors of institutional research perceive to be most valuable to their respective community college?

5. Do the directors of offices of institutional research devote time to those functions perceived by them to be most valuable?

6. What information technology resources are available to and used by the directors of the office of institutional research?

7. What are the level of use and the importance of information technology in offices of institutional research versus the perception of the importance of that use by institutional researchers?

40

8. How do college presidents' perceive the roles and functions of institutional research at their respective colleges?

9. How do college presidents use institutional research to support decision-making?

10. What are specific examples of the ways that college presidents use institutional research to support decision-making?

Data gathered from the surveys were entered into an Excel spreadsheet established so that each column reflected the set of responses to a specific survey question according to the coded form of the survey (Appendix A). Basic descriptive statistics were used for data analysis of data collected from the surveys of directors of institutional research. These statistics included frequencies, percentages, range, means, and standard deviations. Data were displayed using charts and tables. As the survey instrument also provided opportunities for open-ended input by the survey completer, these data were organized by the researcher by categorizing the responses and reporting them accordingly.

Data from the interviews with the college presidents were analyzed in terms of the functions of institutional research as described in part three of the survey instrument. When a president gave a response that did not readily match a functional area listed on the survey, the researcher added a line under the category *Other Functions Cited by Presidents*. These data were analyzed by frequency and percent as well as by comparison with responses of the directors of institutional research on the survey instrument. Finally, anecdotal accounts of specific instances of presidential usage of institutional research personnel or institutional research products selected by the researcher were summarized and presented.

Summary of Chapter 3

This chapter presents information on the survey population, survey instrument, interview protocol population, interview protocol questions, and treatment of the data. This study was designed to determine the functions of offices of institutional research at Tennessee community colleges, the level of technology utilization in those offices, and the perceptions of those college presidents of their respective offices of institutional research. Ten research questions were developed to guide the research method. A survey instrument was developed to provide information on four different areas: Institutional Research Office Characteristics, Directors of Institutional Research Characteristics, Functions of Institutional Research Offices, and Technology Utilization by Institutional Research Offices. In addition, an interview protocol was developed and interviews were held with the presidents of the thirteen Tennessee community colleges. Tables indicating frequency and percentage are used to display the data. The findings are presented in Chapter 4.

CHAPTER 4

FINDINGS

Introduction

This study was designed to determine the functions of offices of institutional research at Tennessee community colleges, the level of technology utilization in those offices, and the perceptions of those college presidents of their respective offices of institutional research. Ten research questions were developed to guide the research methodology. This chapter presents the findings and analysis of the data.

Findings

The research questions were addressed through two primary instruments: 1) a survey of the directors of institutional research at the thirteen Tennessee community colleges; and 2) face-to-face interviews with the presidents of the thirteen Tennessee community colleges using the identical interview protocol with each. Data from the survey of the directors of institutional research were coded and entered into an Excel worksheet. Research questions number 1 – 7 were addressed by analyzing the data entered into that worksheet.

Data from the interviews with the college presidents were collected by means of extensive, hand-written notes taken by the researcher at the time of the interview. Each set of interview notes were transcribed in outline format in the exact order of the interview questions. The Presidents' responses were then correlated to the functions of

the office of institutional research as presented in the Function table of the survey (see Appendix A, Survey Part 3a) and entered into an Excel worksheet.

Research Question #8 was addressed by analyzing data compiled from Interview Protocol questions 1, 2, 3 and 6. When a response from a President about roles and functions suggested a function that was not listed in the original survey questionnaire, a new entry was made on the spreadsheet in a section entitled *Other Functions Cited by Presidents*. Research question #9 was addressed by analyzing data compiled from Interview Protocol questions 5 and 7. Research Question #10 was addressed by presenting salient anecdotal accounts by individual presidents regarding his or her usage of institutional research personnel, products, or activities. These examples were selected by the researcher.

Research Question 1: *How are offices of institutional research organized at Tennessee community colleges?*

In the community colleges of Tennessee, the thirteen offices of institutional research have five different lines of direct report. The majority (8) report directly to the college President. Two offices report to Academic Affairs. Of the remaining three, one reports to Institutional Advancement; one reports to the Vice President of Technology, Planning & Staff Development; and one reports to the Director of Institutional Advancement as illustrated by Table 1.

Table 1: Line of Report by Chief Officers of Institutional Research

Line of report	Frequency	%
Direct Report to President	8	62%
Academic Affairs	2	15%
Institutional Advancement	1	8%
VP Technology & Planning	1	8%
Institutional Effectiveness	1	8%
TOTAL	13	100%

Staffing of the offices of institutional research was described by four categories: 1) full time professional; 2) full time support; 3) part time support; and 4) student workers as displayed in Table 2.

The thirteen offices of institutional research are supported by staffs that range from one solo professional staff member to staffs that include both full time and part time professional and support staff as well as student workers. Eight IR offices (62%) have only one full time professional staff member, three have two, one has three, and one has four. Only one office has a part time professional staff person. Regarding support staff, six offices (46%) have one full time support staff person, one has two full-time, and five have none. Only one office has a part time support staff member. The third component of staffing that was investigated is student workers. Seven officers report no student workers (54%); three officers report using one; two report using two; and one reports using three. These student workers perform from 5 to 20 hours per week. Students performed clerical, data input, and survey assistance functions. One college reported clerical duties only; one

Table 2: Staffing Arrangements by Offices of Institutional Research

Number of staff reported in category	Number of colleges reporting Professional Full-time	%	Number of colleges reporting Professional Part-time	%	Number of colleges reporting Support FT	%	Number of colleges reporting Support PT	%	Number of colleges reporting Student Workers	%
0	0	0	12	92	5	38	12	92	7	54
1	8	62	1	8	6	46	1	8	3	23
2	3	23	0	0	2	15	0	0	2	15
3	1	8	0	0	0	0	0	0	1	8
4	1	8	0	0	0	0	0	0	0	0
Total	13	100	13	100	13	100	13	100	13	100

college reported clerical and survey assistance; one reported data input and survey assistance; and two reported that all three functions were performed by student workers.

A final descriptor of the office of institutional research was obtained by evaluating the titles of the chief officer of institutional research as indicated by the title of the survey completer as presented in Table 3.

Of this group of thirteen, five titles indicated institutional research (IR) only while three others coupled IR with both institutional effectiveness (IE) and planning. One title coupled IR with IE only, while one title coupled IR with Planning only. Thus, ten colleges (77%) retained IR in all or part of the chief officer's title. Two officers stated their title in terms of institutional effectiveness only, while one cited the title as institutional advancement.

Table 3: Titles of Chief Officers of Institutional Research

Titles	Frequency	%
(N=13)		
Includes IR in title	10	77%
IR only	5	38%
IR, IE & Planning	3	23%
IE only	2	15%
IR & IE	1	8%
IR & Planning	1	8%
Institutional Advancement	1	8%

Note: Total is greater than 100% because data are also counted in combinations.

Research Question 2: *What are the characteristics of the person whose fundamental responsibility is to direct the institutional research function at Tennessee community colleges?*

It was found that eight of the directors (62%) were between the ages of 51 and 60; four directors (31%) were between the ages of 41 and 50; and one was over 60 years. Of the thirteen directors, nine were female (70%), while four directors were male. Twelve directors were Caucasian (92%) with one African-American/Black as demonstrated in Table 4.

Table 5 presents the data collected regarding experience in institutional research. The data show that current positions had been held from between .5 years to 27 years with a mean of 6.3 years. The thirteen directors reported having related experience in institutional research at other institutions with a range of 0 to 25 years and a mean of 4.6 years. Seven directors reported no experience in institutional research outside their current institution. Total experience in institutional research ranged from .5 years to 28 years with a mean of 11 years.

Table 4: Description of Participants by Age Range, Gender, and Ethnicity

Age range	Frequency	%	Gender	Frequency	%	Ethnicity	Frequency	%
21-30	0	0	Female	9	69%	AA/Black	1	8
31-40	0	0	Male	4	31%	Caucasian	12	92
41-50	4	31	Total	13	100%	Total	13	100
51-60	8	61						
61 +	1	8						
Total	13	100						

Table 5: Description of Experience in Institutional Research

Years in position	Frequency	%	Similar experience elsewhere in years	Frequency	%	Total years IR experience	Frequency	%
0 to 5	9	69	0 to 5	9	69	0 to 5	4	31
6 to 10	1	8	6 to 10	2	15	6 to 10	5	38
11 to 15	2	15	11 to 15	1	8	11 to 15	1	8
16 +	1	8	16 +	1	8	16 +	3	23
Total	13	100	Total	13	100	Total	13	100

Educational background of the directors was determined in the survey through questions 2f (highest degree obtained) and 2g (major field of highest degree). The results of these responses are presented in table 6. Of the thirteen directors, eight (62%) hold the doctoral degree, four (31%) hold the masters degree, and one holds the bachelor degree. Major Fields of the highest degrees earned were coded to reflect three major categories: Education, Business, and Other. Seven directors earned their highest degree in Education (54%), three in Business (23%), and three in other fields (23%).

In addition to gathering information on the educational level attained, survey question 2h asked if directors had participated in specialized training for institutional research. Ten (77%) responded affirmatively. Results from a response box on the nature of that training indicate that directors participated in a variety of training opportunities including training provided by professional associations, computer training, training in statistics, graduate school studies, grant development training, and effectiveness training. Combinations of these types of training were reported as well. Insufficient data were reported to assess the extent of these training experiences.

Research Question 3: *What are the fundamental functions of the office of institutional research?*

The data demonstrate that all thirty-two functions are performed by a majority of the institutional research offices. Thirteen of the functions are universally performed while no function was performed by fewer than seven institutional research offices.

Table 6: Description of Education Level Attained by Chief Officers of Institutional Research

Highest degree	Frequency	%	Field of highest degree	Frequency	%
Bachelors	1	8%	Education	7	54%
Masters	4	31%	Business	3	23%
Doctorate	8	62%	Other	3	23%
Total	13	100%	Total	13	100%

The findings regarding the frequency of occurrence of these functions in the institutional research offices of the thirteen Tennessee community colleges are presented in table 7.

The data also demonstrate that there were seven functions in which fewer than 70% (9) of the institutions' offices of institutional research participated. Of these seven, three were efficiency considerations, two were student-centered functions, one was an academic-centered function, and one was an institution-wide function.

Research Question 4: *What institutional research functions do directors of institutional research perceive to be most valuable to their respective community college?*

The data collected with regards to institutional research functions do directors of institutional research perceive to be most valuable to their respective community college are presented in table 8. By using a mean value of 3.500 or higher to denote a perception of a very high value of the function to the institution, the data show that chief officers of institutional research place such institution-wide functions as SACS studies, goal setting,

Table 7: Functions Performed by Institutional Research Offices

Function	Category	Frequency	%
Institutional effectiveness	IW	13	100%
Special projects for President	IW	13	100%
Administrative cost studies	EC	13	100%
Research/statistical analysis support for faculty/staff	AC	13	100%
Student demographic studies	SC	13	100%
Student satisfaction surveys & related studies	SC	13	100%
Student retention/persistence studies	SC	13	100%
IPEDS data collection and input	IR	13	100%
Fact book development and maintenance	IR	13	100%
Alumni studies	ER	13	100%
IR staff management/development/evaluation	AD	13	100%
IR department budget formulation/administration	AD	13	100%
Service on college-wide committees	AD	13	100%
Institutional self-study for SACS accreditation	IW	12	92%
Analyze results of standardized testing	SC	12	92%
Compliance reporting	IR	12	92%
Employer surveys	ER	12	92%
Faculty productivity studies	EC	11	85%
Student placement studies	SC	11	85%
Community surveys	ER	11	85%
Institutional image/marketing support	ER	11	85%
Institutional goal setting	IW	10	77%
Strategic planning	IW	10	77%
Academic program accreditation/program review	AC	10	77%
Faculty/staff evaluation processes and reports	AC	10	77%
Space/facility utilization studies	EC	9	69%
Curriculum & instruction studies and reports	AC	9	69%
Enrollment management	SC	9	69%
Salary studies	EC	8	62%
Administer standardized testing	SC	8	62%
Policy evaluation	IW	7	54%
Budget analysis	EC	7	54%

Table 8: Perceived Value of Functions of Institutional Research to the Institution

Function	Mean	Stdev.
Institutional self-study for SACS accreditation	3.917	0.289
Academic program accreditation/program review	3.800	0.422
Institutional goal setting	3.700	0.483
Strategic planning	3.700	0.483
Institutional effectiveness	3.615	0.870
IPEDS data collection and input	3.615	0.650
Curriculum & instruction studies and reports	3.556	0.726
Compliance reporting	3.545	0.688
Fact book development and maintenance	3.538	0.519
Student retention/persistence studies	3.500	0.674
Enrollment management	3.333	0.707
IR staff management/development/evaluation	3.333	0.778
Student demographic studies	3.250	0.866
Student satisfaction surveys & related studies	3.250	0.866
Alumni studies	3.250	0.622
IR department budget formulation/administration	3.250	0.754
Research/statistical analysis support for faculty/staff	3.231	0.725
Faculty/staff evaluation processes and reports	3.200	0.919
Employer surveys	3.167	0.718
Service on college-wide committees	3.167	0.718
Policy evaluation	3.143	0.900
Analyze results of standardized testing	3.091	1.221
Special projects for President	3.077	1.115
Student placement studies	3.000	0.816
Institutional image/marketing support	3.000	0.816
Administrative cost studies	2.909	0.831
Budget analysis	2.833	0.408
Faculty productivity studies	2.818	0.982
Space/facility utilization studies	2.667	0.866
Community surveys	2.667	1.000
Salary studies	2.625	0.744
Administer standardized testing	2.429	1.397

strategic planning, and institutional effectiveness among the most valuable activities they perform. Traditional information reporting functions such as IPEDS data collection, compliance reporting, and fact book development are also rated very high.

Two academic-centered functions are cited as of very high value, program accreditation and curriculum studies, as is one student-centered function, student retention/persistence policies.

By using a mean value of below 3.0 to denote those functions perceived of having moderate to low value for the institution, seven functions are identified. Five of these functions are efficiency considerations while one is an external relations function (community surveys) and another is a student-centered function (administer standardized testing).

An examination of the standard deviations presented in the data demonstrates the degree of agreement among directors regarding the value of the functions. A relatively low sigma (< .5) indicates a high level of agreement about the relative value of a particular function. The data demonstrate that the four functions whose means indicate the highest level of importance to the institution also shared a low sigma, which indicates that these functions were universally acknowledged as highly valuable to the institution. A high standard deviation suggests less agreement about the value of a function to its institution as noted in functions with $\sigma > 1$. Three functions fall into this category: "special projects for President" ($\sigma = 1.115$), "analyze results of standardized testing" ($\sigma = 1.221$), and "administer standardized testing" ($\sigma = 1.397$). While the mean value for each of the three functions was relatively low, the high standard deviation suggests that some directors placed high value on each of these functions.

53

Research Question #5: *Do the directors of offices of institutional research devote time to those functions perceived by them to be most valuable?*

The data collected with regards to whether directors of offices of institutional research devote time to those functions perceived by them to be most valuable are presented in table 9. By using a mean value of 2.0 or higher to denote activities in which time is devoted regularly by offices of institutional research, the data demonstrate that IR offices spend considerable time on institution-wide functions such a institutional effectiveness, strategic planning, special projects for the President, and goal setting. Time is regularly spent on such information reporting responsibilities as IPEDS data collection and fact book development. Administrative duties such as staff management and service on college-wide committees also rank high as do research for faculty and enrollment management. By using a mean of 1.500 or lower to denote activities in which little time is regularly spent, the least amount of time was devoted to such efficiency considerations as budget analysis, salary studies, and faculty productivity studies. In addition, little time was regularly spent on such activities as administering standardized tests, formulating IR budgets, reporting on faculty/staff evaluations, and conducting community surveys.

In order to address the question, "Do directors of offices of institutional research devote time to those functions perceived by them to be most valuable?" the discrepancy between the means of the value of the function versus the time spent on the function was computed. Presented in Table 10 is the gap between the mean scores of perceived value of the function with time spent on that function.

Table 9: Time Devoted to Function by Institutional Research

Function	Mean	Stdev.
Institutional effectiveness	3.167	1.193
Strategic planning	2.444	1.333
IR staff management/development/evaluation	2.417	1.379
IPEDS data collection and input	2.231	1.166
Research/statistical analysis support for faculty/staff	2.154	1.068
Fact book development and maintenance	2.154	0.987
Enrollment management	2.100	0.994
Special projects for President	2.083	1.165
Service on college-wide committees	2.083	1.165
Institutional goal setting	2.000	1.225
Institutional self-study for SACS accreditation	1.909	0.944
Administrative cost studies	1.909	1.044
Compliance reporting	1.909	0.944
Curriculum & instruction studies and reports	1.889	1.269
Student demographic studies	1.833	0.718
Student satisfaction surveys & related studies	1.750	0.622
Academic program accreditation/program review	1.727	0.647
Policy evaluation	1.667	0.516
Student placement studies	1.667	0.500
Student retention/persistence studies	1.636	0.674
Analyze results of standardized testing	1.583	0.669
Space/facility utilization studies	1.556	1.130
Institutional image/marketing support	1.556	0.726
Alumni studies	1.545	0.820
Employer surveys	1.545	1.036
Budget analysis	1.500	0.837
Salary studies	1.500	0.837
Administer standardized testing	1.500	0.837
IR department budget formulation/administration	1.500	0.674
Faculty productivity studies	1.455	1.036
Faculty/staff evaluation processes and reports	1.444	0.527
Community surveys	1.000	0.866

Table 10: Discrepancy Between Mean of Value of the Function and Mean of Time

Devoted to a Function by Offices of Institutional Research Sorted by Gap

Function	Mean of value	Mean of time	Gap
Academic program accreditation/program review	3.800	1.727	2.073
Institutional self-study for SACS accreditation	3.917	1.909	2.008
Student retention/persistence studies	3.500	1.636	1.864
Faculty/staff evaluation processes and reports	3.200	1.444	1.756
IR department budget formulation/administration	3.250	1.500	1.750
Alumni studies	3.250	1.545	1.705
Institutional goal setting	3.700	2.000	1.700
Curriculum & instruction studies and reports	3.556	1.889	1.667
Community surveys	2.667	1.000	1.667
Compliance reporting	3.545	1.909	1.636
Employer surveys	3.167	1.545	1.621
Analyze results of standardized testing	3.091	1.583	1.508
Student satisfaction surveys & related studies	3.250	1.750	1.500
Policy evaluation	3.143	1.667	1.476
Institutional image/marketing support	3.000	1.556	1.444
Student demographic studies	3.250	1.833	1.417
IPEDS data collection and input	3.615	2.231	1.385
Fact book development and maintenance	3.538	2.154	1.385
Faculty productivity studies	2.818	1.455	1.364
Budget analysis	2.833	1.500	1.333
Student placement studies	3.000	1.667	1.333
Strategic planning	3.700	2.444	1.256
Enrollment management	3.333	2.100	1.233
Salary studies	2.625	1.500	1.125
Space/facility utilization studies	2.667	1.556	1.111
Service on college-wide committees	3.167	2.083	1.083
Research/statistical analysis support for faculty/staff	3.231	2.154	1.077
Administrative cost studies	2.909	1.909	1.000
Special projects for President	3.077	2.083	0.994
Administer standardized testing	2.429	1.500	0.929
IR staff management/development/evaluation	3.333	2.417	0.917
Institutional effectiveness	3.615	3.167	0.449

The gap between the means of value of function versus time spent on that function ranged from 0.449 to 2.073. The lowest gap score was for institutional effectiveness, which indicates that institutional researchers devote time to this function in proportion with their perception its value. At the other extreme, the highest gap score was for academic program accreditation/program review, which suggests that institutional researchers do not devote a proportionate amount of time to this function given its value. The gap scores were then sorted based upon overall perceived value of the functions to the institution from highest value to lowest value as presented in table 11.

A review of the ten functions perceived as most valuable to the institution by institutional researchers shows that six of these ten functions, including the top three, are marked by a gap in excess of 1.6, which suggests a high level of disparity between value and time devoted to the function. Two of these top ten valued functions were academic considerations including academic program accreditation/program review and curriculum (2.073) as well as instruction studies and reports (1.667). The lowest gap score of all 32 functions (.449) was computed for the function of institutional effectiveness, which suggests a balance between value and time devoted to the function.

Research Question 6: *What information technology resources are available to and used by directors of the office of institutional research?*

The types of technology that were reported to be used in offices of institutional research are presented in table 12.

Table 11: Discrepancy Between Mean of Value of the Function and Mean of Time

Devoted to a Function by Offices of Institutional Research Sorted by Mean of Value

Function	Mean of Value	Mean of Time	Gap
Institutional self-study for SACS accreditation	3.917	1.909	2.008
Academic program accreditation/program review	3.800	1.727	2.073
Institutional goal setting	3.700	2.000	1.700
Strategic planning	3.700	2.444	1.256
IPEDS data collection and input	3.615	2.231	1.385
Institutional effectiveness	3.615	3.167	0.449
Curriculum & instruction studies and reports	3.556	1.889	1.667
Compliance reporting	3.545	1.909	1.636
Fact book development and maintenance	3.538	2.154	1.385
Student retention/persistence studies	3.500	1.636	1.864
Enrollment management	3.333	2.100	1.233
IR staff management/development/evaluation	3.333	2.417	0.917
IR department budget formulation/administration	3.250	1.500	1.750
Alumni studies	3.250	1.545	1.705
Student satisfaction surveys & related studies	3.250	1.750	1.500
Student demographic studies	3.250	1.833	1.417
Research/statistical analysis support for faculty/staff	3.231	2.154	1.077
Faculty/staff evaluation processes and reports	3.200	1.444	1.756
Employer surveys	3.167	1.545	1.621
Service on college-wide committees	3.167	2.083	1.083
Policy evaluation	3.143	1.667	1.476
Analyze results of standardized testing	3.091	1.583	1.508
Special projects for President	3.077	2.083	0.994
Institutional image/marketing support	3.000	1.556	1.444
Student placement studies	3.000	1.667	1.333
Administrative cost studies	2.909	1.909	1.000
Budget analysis	2.833	1.500	1.333
Faculty productivity studies	2.818	1.455	1.364
Community surveys	2.667	1.000	1.667
Space/facility utilization studies	2.667	1.556	1.111
Salary studies	2.625	1.500	1.125
Administer standardized testing	2.429	1.500	0.929

Table 12: Types of Technology Available in Offices of Institutional Research

Type of technology application	Frequency	%
Use of email in Office of Institutional Research	13	100%
Access to the Internet from office for work purposes	13	100%
Use of web sites for research or reference	13	100%
Development of your IR office web page	13	100%
Maintenance and update of IR office web page	13	100%
Use of spreadsheet software	13	100%
Use of desktop database software	13	100%
Use of presentation software	13	100%
Use of desktop publishing software	12	92%
Use of statistical analysis software	12	92%
Use of programming languages to generate reports	12	92%
Use of campus data warehouses	11	85%
Use of a laptop or other portable computer device	10	77%
Access to work email from home or a remote site	8	62%
Use of non-campus data warehouses or data marts	8	62%

Eight of the fifteen applications were universally available to the offices with three others available at all but one. Campus data warehouses were accessible at 11 of 13 colleges while use of laptop computers was available at 10 of 13 colleges. The least accessible technologies, cited by only eight respondents, were access to work email from remote sites and use of non-campus data warehouses/data marts, which are presented in table 13.

Five of the fifteen technology applications were cited as being used, on average, three or more times per week with use of email being almost universally a daily practice. Two applications, use of presentation software and use of non-campus data warehouses or data marts, were least frequently used.

The survey instrument also asked respondents to indicate the level of importance of the technology applications, which are presented in the Table 14.

Table 13: Level of Current Use of Technology Applications in Offices of

Institutional Research

Type of Technology Application	Mean	Stdev.
Use of email in Office of Institutional Research	3.846	0.555
Access to the Internet from office for work purposes	3.308	0.855
Use of spreadsheet software	3.231	1.092
Use of web sites for research or reference	3.154	0.987
Use of desktop database software	3.154	0.987
Use of statistical analysis software	2.667	0.985
Use of campus data warehouses	2.545	0.820
Use of programming languages to generate reports	2.417	1.084
Development of your IR office web page	2.231	1.166
Access to work email from home or a remote site	2.200	1.033
Maintenance and update of IR office web page	2.182	0.982
Use of a laptop or other portable computer device	2.100	0.994
Use of desktop publishing software	2.083	0.996
Use of presentation software	1.846	0.987
Use of non-campus data warehouses or data marts	1.250	0.463

Table 14: Level of Importance of Technology Application in Offices of Institutional

Research

Type of Technology Application	Mean	Stdev.
Use of web sites for research or reference	4.769	0.599
Use of email in Office of Institutional Research	4.692	0.855
Use of spreadsheet software	4.692	0.630
Access to the Internet from office for work purposes	4.615	0.650
Use of statistical analysis software	4.500	0.798
Maintenance and update of IR office web page	4.417	0.793
Use of desktop database software	4.385	0.650
Use of programming languages to generate reports	4.364	1.027
Development of your IR office web page	4.231	0.832
Use of campus data warehouses	4.091	1.375
Access to work email from home or a remote site	3.889	1.054
Use of presentation software	3.769	1.166
Use of a laptop or other portable computer device	3.700	1.160
Use of desktop publishing software	3.667	0.778
Use of non-campus data warehouses or data marts	2.625	1.408

By interpreting a mean of 4.500 or higher to indicate a technology application that was highly important, the data indicate that five functions were so rated; when interpreting a mean score of 4.000 to 4.449 as very important, five functions were so rated; when interpreting a mean score of 3.500 to 3.999 as important, four functions were so noted. Only the use of non-campus data warehouses received a mean score of less than three (unimportant).

Research Question 7: *What are the level of use and the importance of information technology in offices of institutional research versus the perception of the importance of that use by institutional researchers?*

To address this question, the data provided in Table 14 were coded to indicate three levels of relative importance with 3 indicating High ($\mu \geq 4.50$), 2 indicating Moderate ($\mu \geq 3.5$), and 1 indicating Low ($\mu < 3.5$). The technology applications were then sorted by the mean of their level of use. The results are shown in Table 15.

All uses of technology are consistent with their perceived importance except for the use of statistical analysis software, which was rated as high in importance yet was not used regularly. An open-ended question on the survey provided respondents with the opportunity to explain if the level of current use of a particular technology application is due to insufficient training on that technology. Eight of the thirteen surveys included a response to this question. Of those eight, four cited lack of training on statistical analysis software, three cited lack of training on Office suite software products, two cited lack of training on programming languages, and one cited lack of training on web page development.

61

Table 15: Technology Use and Relative Rank in Importance in Offices of

Institutional Research

Type of technology application	Mean use	Rank in importance
Use of email in Office of Institutional Research	3.846	3
Access to the Internet from office for work purposes	3.308	3
Use of spreadsheet software	3.231	3
Use of web sites for research or reference	3.154	3
Use of desktop database software	3.154	2
Use of statistical analysis software	2.667	3
Use of campus data warehouses	2.545	2
Use of programming languages to generate reports	2.417	2
Development of your IR office web page	2.231	2
Access to work email from home or a remote site	2.200	2
Maintenance and update of IR office web page	2.182	2
Use of a laptop or other portable computer device	2.100	2
Use of desktop publishing software	2.083	2
Use of presentation software	1.846	2
Use of non-campus data warehouses or data marts	1.250	1

To further illuminate the use of technology and the perception of its value by

directors of institutional research, the survey instrument asked respondents to list their

top five technology-related needs. Ten of the thirteen respondents listed at least one

priority, nine listed at least two priorities, six listed at least four priorities, and five listed

five priorities for a total of 36 listed items. The technology needs listed were grouped into

five categories as follows: 1 = training; 2 = software; 3 = hardware; 4 = staffing; and 5 =

data warehousing development. The results are presented in table 16.

The preponderance of responses to this input box cited training in at least one area

as an important priority. Specific training needs included training on SPSS, SAS,

BANNER, FOCUS, web page design, web use, scanner use, and data management tools

in general. Both computer software (eight responses) and computer hardware (seven

Table 16: Technology Needs of Offices of Institutional Research

	Priority with frequency					
Technology need	1st	2nd	3rd	4th	5th	Total
Training	8	2	3	2	0	15
Software	0	5	2	0	1	8
Hardware	0	2	1	2	2	7
Data warehouse development	2	0	0	1	1	4
Staffing (technical)	0	0	0	1	1	2
Total responses						36

responses) were mentioned as significant needs as well. Software needs included data warehousing programs, web survey programs, web page development programs, relational database programs, SPSS, Access, and Excel. Hardware needs included laptops, web-based data storage tools, scanners, electronic imaging systems, and upgrades to office computers. Less frequently listed were data warehouse and staffing considerations. Data warehouse development comments cited migration to Banner or other relational databases. Finally, staffing needs that were listed included an IT professional with programming expertise and a technician.

Research Question 8: *How do college presidents perceive the roles and functions of institutional research at their respective colleges?*

The specific protocol questions used to answer research question 8 were as follows:

1. What functions do you expect your office of institutional research to fulfill on a regular, ongoing basis?
2. From your perspective, what functions does your office of institutional research perform especially well?

3. Again from your perspective, what functions performed by your office of institutional research could be improved or expanded?

4. In what ways other than those already mentioned do you use and value your office of institutional research?

Each of these questions probed the presidents' perspectives on how they viewed the roles and functions of institutional research. The total number of responses that addressed these roles and functions taken from all thirteen interviews was 107. The number of presidents who cited each function was tabulated. Included in this process were the other functions cited by the presidents, which were added to the original 32 functions of institutional research. Table 17 presents the functions in descending order by frequency of response.

Research Question 9: *How do college presidents use institutional research to support decision-making?* And,

Research Question 10: *What are specific examples of the ways that college presidents use institutional research to support decision making?*

The specific protocol question used to answer research questions 9 and 10 was number 5 as listed below:

5. How do you use the office of institutional research to support decision-making?

[Note to researcher: If an example is not given in response to this question, prompt interviewee as follows: Is there a recent situation where you have used your office of institutional research to help you form a decision? If so, could you briefly describe that situation?]

Table 17: Institutional Research Functions Cited by Presidents

	Function	Total	Percent of total responses
	IPEDS data collection and input	11	10.28
	Compliance reporting	10	9.35
	Research/statistical analysis support for faculty/staff	9	8.41
	Institutional image/marketing support	9	8.41
	Strategic Planning	7	6.54
	SACS	7	6.54
	Academic program accreditation/program review	6	5.61
*	Grant applications and related work	6	5.61
*	Training/communication w/faculty/staff	6	5.61
	Institutional Effectiveness	4	3.74
	Enrollment management	4	3.74
*	Community partnership support	4	3.74
	Fact book development and maintenance	3	2.80
*	Quality Team Leadership	3	2.80
	Institutional Goal Setting	2	1.87
	Curriculum & instruction studies and reports	2	1.87
	Alumni studies	2	1.87
*	Outlying site support/coordination	2	1.87
	Policy Evaluation	1	0.93
	Administrative cost studies	1	0.93
	Student demographic studies	1	0.93
	Student satisfaction surveys & related studies	1	0.93
	Student placement studies	1	0.93
	Community surveys	1	0.93
	Employer surveys	1	0.93
*	Development support	1	0.93
*	Technology implementation leadership	1	0.93
*	Legislative liaison	1	0.93
	Special Projects for President	0	0.00
	Budget analysis	0	0.00
	Faculty productivity studies	0	0.00
	Salary studies	0	0.00
	Space/facility utilization studies	0	0.00
	Faculty/staff evaluation processes and reports	0	0.00
	Student retention/persistence studies	0	0.00
	Administer standardized testing	0	0.00
	Analyze results of standardized testing	0	0.00
	IR staff management/development/evaluation	0	0.00
	IR department budget formulation/administration	0	0.00
	Service on college-wide committees	0	0.00
	TOTAL	107	100.00

Note: * indicates an additional function cited by one or more college presidents

In addition, specific illustrations of decision-making by a college president proffered during the response to another protocol question were also referenced to respond to this research questions.

While college presidents did not respond to the protocol questions with any arbitrary categories of institutional research functions necessarily in mind, it is helpful to view their responses in terms of the general functions identified in this study and used in the survey instrument.

College presidents cited a number of Institution-wide Functions, especially those that had to do with strategic planning and institutional effectiveness, as areas where institutional research was referenced for decision making. One president stated that using institutional research for decision-making is an inherent part of the SACS model of institutional effectiveness. Data are consistently looked at and the process of reviewing data is an "integrated part of the decision-making process". Another cited the process for designing a strategic plan for multiple outlying sites to determine site viability and management strategies. This process included separating each site's demographics, identifying each site's stated needs via data collected through town meetings, and then profiling each site so that decision-making is individualized by site. Several presidents cited the Director of Institutional Research as the chair or lead person for strategic planning, one stating that the institutional research director reports directly to the president and provides information on strategic planning methods and how to "work our plan". The link between strategic planning and decision-making with regard to SACS accreditation issues was voiced by several. One president stated that institutional research provides data to assure that all sub-units are in line with accreditation expectations and

66

requirements. This president gave the example of performance funding reports as an excellent way to look at data and redirect the college's efforts towards improvement.

Institutional research was also referenced as a resource for decision-making with regard to policy decisions. One president cited the evaluation of the college's smoking policy. The institutional research office was asked to research relevant law, conduct interviews, compile data, and present results. Another president cited the use of data provided by institutional research to assist with the structural reorganization of college, which was subsequently enacted soon after he became president.

A second functional area frequently referenced by college presidents in terms of using institutional research for decision-making involved efficiency considerations. Whether as a member of Executive Council or budget committee, the Director of Institutional Research helps to provide links between accomplishments and budget allocations. One president cited the use of student credit hour (SCH) production to balance adjunct usage and justify additions of full time faculty as well as to support capital outlay for new labs or buildings. Two presidents cited institutional research as a resource of data for career program analyses and program feasibility in order to support budget decisions with regards to program viability.

College presidents also cited several academic-centered circumstances when institutional research was instrumental in supporting decision-making. Two presidents cited exit examination decisions that relied upon analyses of results by institutional research as well as ensuing studies crafted and implemented by institutional research. Another president outlined his use of institutional research when he was asked by a department to approve significant curriculum changes, which included establishing

research questions on the impact of the changes, a methodology for the study, and a way to interpret results. Another president provided a very specific example of how he used grade distribution data supplied by institutional research to discern reasons for the sudden popularity of a teacher as evidenced by student surveys of instruction.

Presidents also referenced several student-centered functions of institutional research, notably enrollment management data and studies, to help with decision-making. One president cited active use of institutional research to provide current data to enrollment progress, and then to generate lists of students to contact to potentially enhance enrollment performance. Another president cited institutional research as a resource to provide longitudinal studies to assist with decisions to be made with regards to recruitment and retention. A third president cited institutional research as the resource used to explain a recent upward trend in graduating class size and what decisions should be made to continue this trend. Another president cited the example of expanding technology program participation by calling upon institutional research to determine capacity, identify target markets, develop strategies, and track results.

Institutional research was also cited as an important resource for decision-making in the broad area of external relations**.** One president cited the use of to supply trend data from enrollment management and thus to support decisions on a branding campaign with which to provide name recognition of the college to employers and the community. Another president cited an increased reference to institutional research in market research and in collaborations with outside groups. Yet another president referenced the institutional research director as legislative liaison for college and to identify grants opportunities for the college to participate thus aiding the president in deciding how best

to direct limited resources. The role of institutional research in decision-making for fund raising functions was also cited. One president alluded to institutional research to help with decisions regarding the most salient information for a target audience, notably for foundation/fund raising initiatives.

Summary of Chapter 4

This chapter has presented responses to the ten research questions of the study according to the data collected and the analysis of that data. The researcher's conclusions, discussion of those conclusions, implications of the findings, and recommendations for further study will be presented in Chapter 5.

CHAPTER 5

CONCLUSIONS, DISCUSSION, AND RECOMMENDATIONS FOR FURTHER

STUDY

Introduction

This study was designed to address the characteristics of institutional research

offices in community colleges in Tennessee and the nature of use of those offices by their

respective community college presidents for decision-making. The Defining Our Future

initiative of the Tennessee Board of Regents, prompted by the state legislature's directive

that both the University of Tennessee and Tennessee Board of Regents systems determine

how they can operate more efficiently and with more limited resources, underscored the

inherent link between the traditional functions of institutional research and sound

decision-making by college presidents regarding the present and future operation of

Tennessee community colleges. With Tennessee's community colleges facing not only

this more stringent level of accountability, but also more exacting demonstrations of

institutional effectiveness in an increasingly competitive higher education market, this

study was designed to assess the current makeup of offices of institutional research, their

use of technology, and their usefulness to college presidents for decision-making.

The purposes of this study were to gather descriptive data in order to define the

roles and responsibilities of the office of institutional research; to collect data that

describe the type and level of utilization of new technologies by offices of institutional

research; and to determine the perceptions and utilization of the office of institutional

research by each Tennessee community college president. In addition, this study also

gathered insights from the college presidents on the future roles that institutional research

should play in Tennessee's community colleges.

Research Questions

Specific research questions that were examined in this study are as follows:

1. How are offices of institutional research organized at Tennessee community colleges?

2. What are the characteristics of the person whose fundamental responsibility is to direct the institutional research function at Tennessee community colleges?

3. What are the fundamental functions of the office of institutional research?

4. What institutional research functions do directors of institutional research perceive to be most valuable to their respective community college?

5. Do the directors of offices of institutional research devote time to those functions perceived by them to be most valuable?

6. What information technology resources are available to and used by the directors of the office of institutional research?

7. What are the level of use and importance of information technology in offices of institutional research compared to the perception of the importance of that use by institutional researchers?

8. How do college presidents perceive the roles and functions of institutional research at their respective colleges?

9. How do college presidents use institutional research to support decision-making?

10. What are specific examples of the ways that college presidents use institutional research to support decision-making?

Conclusions

1. *How are offices of institutional research organized at Tennessee community colleges?* The study identified the following characteristics of the organization of offices of institutional research. The majority of the chief officers of institutional research (8) report directly to the president of the college. Other lines of report are to offices of academic affairs (2); institutional advancement (1); technology and planning (1), and institutional effectiveness (1). The offices of institutional research are generally staffed by only one full time institutional research professional (8 colleges), that being the chief officer him or herself. Three colleges reported two full time professional staff; one reported three; and one reported four. As the title of the office was considered as an identifying characteristic of the offices' organization, the study found that 77% of the offices charged with institutional research functions retained the term "Institutional Research" in their titles. Over 50% of these offices included "institutional effectiveness" and/or "planning" as descriptors of the office.

2. *What are the characteristics of the person whose fundamental responsibility is to direct the institutional research function at Tennessee community colleges?* The typical chief officer of institutional research in Tennessee community colleges is a white female (70%) over the age of 51 (62%) who holds a doctoral degree (62%) in education (54%) with 11 years of cumulative experience in institutional research. In

addition, this typical professional would have participated in specialized training for institutional research functions (77%).

3. *What are the fundamental functions of the office of institutional research?* Of the 32 functions of offices of institutional research presented to the respondents of the survey, thirteen were universally acknowledged as an ongoing function by the chief officers. These thirteen are institutional effectiveness, special projects for the president, administrative cost studies, research support for faculty/staff, student demographic studies, student surveys, student retention/persistence studies, IPEDS data collection and input, fact book development, alumni studies, IR staff management, IR department administration, and service on college-wide committees. The data also show that two functions were acknowledged by only 7 of the 13 colleges, those being policy evaluation and budget analysis.

4. *What institutional research functions do directors of institutional research perceive to be most valuable to their respective community college?* Chief officers of institutional research place such institution-wide functions as SACS studies, goal setting, strategic planning, and institutional effectiveness among the most valuable activities they perform. Traditional information reporting functions such as IPEDS data collection, compliance reporting, and fact book development are also rated very high. Two academic-centered functions are cited as of very high value, program accreditation and curriculum studies, as is one student-centered function, student retention/persistence policies.

5. *Do the directors of offices of institutional research devote time to those functions perceived by them to be most valuable?* Survey responses indicate that ten functions

73

were performed regularly including the function of institutional effectiveness, which ranked highest. Functions that were not regularly addressed included budget analysis, salary studies, and administration of standardized testing. The data were then analyzed to see whether time was regularly devoted to those functions deemed most valuable. A review of the ten functions perceived as most valuable to the institution by institutional researchers shows that six of these ten functions including the top three - institutional self-study for SACS, academic program accreditation/review, and institutional goal setting - as well as curriculum studies, compliance reporting, and student retention/persistence studies, demonstrated disparity between the value placed on the functions and the time devoted to those same functions. The data suggested a balance between value and time devoted to the function of institutional effectiveness by offices of institutional research.

6. *What information technology resources are available to and used by the directors of the office of institutional research?* Data collected from survey responses indicated that eight of the fifteen technology applications cited in the survey were available to all Tennessee community colleges offices of institutional research. These are use of email, access to the Internet, use of web sites for research, development of an IR web page, maintenance of the IR web page, spreadsheet software, desktop database software, and presentation software. In addition, desktop publishing software, statistical analysis software, and use of programming languages were available at all but one college. Campus data warehouses were accessible at 11 of 13 colleges while use of laptop computers was available at 10 of 13 colleges. The least accessible technologies, cited by only eight respondents, were access to work email from remote

sites and use of non-campus data warehouses/data marts. The technologies that were of greatest importance were web sites for research or reference, email, spreadsheet software, Internet access, and statistical analysis software. Least importance was given to non-campus data warehouses or data marts.

7. *What are the level of use and importance of information technology in offices of institutional research compared to the perception of the importance of that use by institutional researchers?* In all cases but one, the level of use of information technology in offices of institutional research was consistent with the perception of its importance. The one exception was the use of statistical analysis software, which was rated as being highly important but not used regularly. This may be due to either availability of the software itself or insufficient training on such software as data were also collected via an open-ended question on what were the technology needs of offices of institutional research. Eight responses indicated training in such areas as SPSS, SAS, BANNER, FOCUS, and web-based functions as the most important technology-related need from a total of 36 ranked responses. Following training, software needs such as web survey programs, relational database programs, and SPSS were cited most often. Hardware requirements were the next most frequently cited with laptops, web-based storage tools, scanners, and office computer upgrades listed as needs.

8. *How do college presidents perceive the roles and functions of institutional research at their respective colleges?* Data collected on the perceptions of the roles and functions of institutional research by each president demonstrate that a majority of college presidents recognize such functions as data collection, compliance reporting,

research/statistical analysis for faculty/staff, marketing support, strategic planning, and accreditation (SACS) support to be standard tasks performed by their respective offices of institutional research. Functions cited by at least one of the presidents that were not on the survey list of thirty-two functions used in the survey of institutional research officers included grant applications, training faculty/staff, supporting community partnerships, leading Quality Teams, supporting outlying sites, supporting development opportunities, leading technology implementations, and serving as a legislative liaison.

9. & 10. *How do college presidents use institutional research to support decision-making? What are specific examples of the ways that college presidents use institutional research to support decision-making?* The examples given by the presidents of how they utilize institutional research to help with the decision-making process span all functional areas of institutional research. The analysis of the presidents' examples points to an especially strong use of institutional research to assist with decisions regarding such institution-wide activities as strategic planning, accreditation requirements, and institutional effectiveness. A second area of use of institutional research frequently cited by presidents is the general area of efficiency considerations especially with regards to budget allocations and/or faculty position additions based upon student credit hour (SCH) production. Presidents also sought the support of institutional research with regard to academic issues such as analysis of exit examination performance and design of strategies to optimize that performance. Presidents look to institutional research to provide data and analysis for enrollment management decisions involving recruitment, outreach, marketing, and retention

initiatives. Closely related is the use of institutional research to support presidential

activities in the community at large. When engaged in activities such as fund-raising,

branding, collaborating with community partners, or speaking to a public audience,

college presidents refer to institutional research for current, targeted information as

well as for recommendations regarding the selection of appropriate information.

Discussion

This study reveals the growing complexity of expectations placed upon offices of

institutional research in Tennessee community colleges in the 21st century. Institutional

research is increasingly expected to play a pivotal role in addressing the major issues of

institutional effectiveness, competitive market forces, and augmented accountability to

multiple, external stakeholders. This study suggests that this expectation for offices of

institutional research amounts to a paradigm shift from the traditional viewpoint of

institutional research as a data collection and data reporting office. The image of

"information architect" posited in the literature by Matier is appropriate as it suggests that

institutional researchers are to bring a college-wide, analytical perspective to data

collection systems and thus aid in their conceptualization, design, and implementation.

Furthermore, as an architect works with all constituents from owner to builder to

agencies, an institutional researcher must work with all college stakeholders to develop

collaborative planning processes, implementation strategies, and assessment tools for

which he or she will provide guidance and support. When viewed as information

architects as opposed to information reporters, institutional researchers will be able to

more completely fulfill significant ongoing and new roles with all facets of a college's infrastructure.

The capability of offices of institutional research to fully meet the challenges of this paradigm shift to the college's information architect may depend upon colleges' responses to two concerns suggested by the data in this study. First, there is a potential upcoming problem given the ages of chief officers of institutional research, especially in those offices without a second professional to assume duties as a successor. Each college may wish to evaluate its particular expectations of the institutional research office and design criteria for hiring future institutional research leaders. This process may include formal familiarization with institutional research capabilities for college leaders so that there is an inherent synergy between presidents and the research office. Secondly, given the new demands of the information architect paradigm, colleges may want to examine current and ongoing professional development needs of institutional research professionals as well as strategies to fund and meet those needs.

While the office of institutional research is already viewed by the presidents of Tennessee community colleges to be a ready resource for presidential decision-making, the disparity between institutional researchers' perceptions of functions that are of value to the institution and the time devoted to those functions suggest the need for greater clarity in presidential expectations for assistance by institutional research. Although, flexibility and responsiveness to the needs of the president are evident, clarification of expected functions of the offices of institutional research in Tennessee community colleges would provide greater opportunity for chief officers of institutional research to plan time, resources, and staffing to meet those expectations effectively.

This study also suggests that Presidents are saying that they reference the institutional research office for decisions about both budgeted resource allocation and acquisition of new resources via grants, gifts or participation in funded programs. Yet, data from this study suggest that chief officers of institutional research do not place a high value on such activities as administrative cost studies, budget analysis, space/facility utilization studies, or salary studies. Just an architect must be fully cognizant of costs when preparing and implementing a design, so should offices of institutional research be fully engaged in the budgeting process. Thus, this study suggests that a thorough role definition process for the office of institutional research would be of great value to each college president, constituents throughout the college, and the institutional research office itself.

Recommendations for Further Study

The results of this study suggest that research into the following areas would be valuable:

1. This study requested that chief institutional research officers indicate on the survey both the value of given functions and the time devoted to that function per week. However, several institutional research functions are project-based and an assignment of attention to those functions on a weekly basis may not point out the overall importance of that function. A survey that asked institutional researchers to indicate whether a function were a) a critical function of the college; and b) a critical of function of the IR office based upon comparable scales may make the gaps between them more meaningful measures.

2. This study was limited to the examination of several aspects of institutional research in Tennessee community colleges. It may be beneficial to replicate this study of community college institutional research offices across multiple state lines or within the SACS region. It may be helpful to structure such a study around relative headcount, FTE production, demographics, and/or curriculum of community colleges. Such a study might also include reference to both general technology use and specific technology applications such as interactive websites and online surveys, thus providing a more comprehensive overview of community college offices of institutional research.

3. This study comprehensively addressed a wide span of functions carried out by institutional research and gathered specific and personal data from college presidents across the entire spectrum of institutional research tasks. It may be beneficial to focus a study on one key functional area. For example, a more in-depth examination of the use by presidents of institutional research to make decisions on efficiency considerations may reveal not only best practices throughout the system, but also areas where there are gaps in available data or deficiencies in analysis that hinder the data-driven decision making process. Such a function-specific study might be directed at a sample of institutions regionally or nationally to provide a more significant pool of data from which to draw conclusions.

4. A more in depth study of exactly how college presidents work with institutional research to meet their needs would illuminate more fully the role institutional research plays in decision-making. A part of such a study could focus on what characteristics of an institutional research officer presidents value most highly and what criteria they

would use to choose the next institutional research director or additional institutional research staff.

5. While this study focused on the interrelationship of college presidents with institutional research, the role of institutional research in decision making by subordinate community college leaders could also be explored. Thus, a study that focused on the use of institutional research by Vice Presidents, Deans, and/or support staff areas would add to the body of knowledge on the roles of community college offices of institutional research.

6. Another focus for future study on community college institutional research could be its role in specific new initiatives. For example, given that several Tennessee community colleges are currently engaged in a state-wide pilot of the Academic Audit, a peer review process that evaluates quality assurance in academic practices based upon the work of William Massey (Massey, 2003), a study focusing on the role of institutional research in this process is recommended. Similarly, the forthcoming implementation of the BANNER information management program, an integrated, web-based software produced by Sungard SCT Inc., which links all functions of the college through a common database, throughout the Tennessee Board of Regents system including all of Tennessee's community colleges could spawn a valuable study. Studies of how institutional research functions in these and other new initiatives could provide further insight regarding its functions, technology applications, and use for decision-making.

Summary of Chapter 5

This study affirmed the inherent link between institutional research and all functional areas of the community colleges in Tennessee. It demonstrated the broad span of functions performed by institutional research, the nature of the staffing of its offices, the technology applied therein, and the resource for decision-making that this office provides to community college presidents. Given the ongoing demands for demonstrating institutional effectiveness, addressing market forces, and responding to standards of accountability, community colleges in Tennessee and their presidents will continue to turn to their respective offices of institutional research for not only support, but guidance. It is vital that, as the model of data driven decision making in higher education becomes the norm, the contributions by offices of institutional research be acknowledged and utilized.

LIST OF REFERENCES

LIST OF REFERENCES

Astin, A. (1991). Assessment for excellence: The philosophy and practice of assessment and evaluation in higher education. New York: American Council on Education, Macmillan.

Banta, T. W. (1988). Assessment as an instrument of state funding policy. <u>New Directions for Institutional Research Volume 82.</u> San Francisco: Jossey-Bass.

Bennett calls on colleges to assess their own performance, publish results. (1985, November 6) Chronicle of Higher Education, p. 25. <u>Directions for Institutional Research Volume 103.</u> San Francisco: Jossey Bass.

Bers, T. (1999). The impact of distance education on institutional research. <u>New Directions for Institutional Research Volume 103.</u> San Francisco: Jossey-Bass.

Blustain, H., Goldstein, P., and Lozier, G. (1999). Assessing the new competitive landscape. In R. Katz (ed.) <u>Dancing with the Devil: Information Technology and the new Competition in Higher Education.</u> San Francisco: Jossey Bass.

Brandt, D. (1998). Institutional effectiveness: practice or theory. Commerce, TX: Texas A&M University – Commerce. (ERIC Document Reproduction Service No. ED 422 819).

Broderick, D. (1973). A Survey of the Current Status of Institutional Research in Selected Two-Year Colleges. Dissertation, Arizona State University.

Burke, J. & Modarresi, S. (1999).Performance. *Change 31*(6) 16-24.

Chan, S. (1999). The impact of technology on users and the workplace. <u>New Directions for Institutional Research Volume 103.</u> San Francisco: Jossey Bass.

Clagett, C. (1992). Enrollment Management. In M. Whiteley, J. Porter & R Fenske (ed.) <u>The Primer for Institutional Research</u>. Tallahassee, FL: Association for Institutional Research.

Clyburn, J. (1989). <u>An investigation of institutional research in small, private colleges in the southeastern United States.</u> Dissertation, The University of Tennessee.

Cohen, A. (1996). Trends in institutional research. Paper presented at the Annual Conference of SAIR. (ERIC Document Reproduction Service No. ED 398 972).

Council on Postsecondary Accreditation. (1986). Educational quality and accreditation: A call for diversity, continuity, and innovation. Washington, D.C.: Author.

Cowley, W. (1959). Two and a half centuries of institutional research. In R. Axt and H. Sprague (ed.) College Self-Study Lectures on Institutional Research. Colorado: Western Interstate Commission on Higher Education.

Delaney, M. (1997). The role of institutional research in higher education. Research in Higher Education 38 (1), 1 – 16.

Dodd, B. (2001). An investigation of the learning outcomes of distance learning students versus traditional classroom students attempting the masters of business administration. Dissertation. University of Tennessee.

Dressel, P. (1971). Institutional Research in the University: A Handbook. San Francisco: Jossey-Bass.

Ewell, P. & Chaffee, E. (1984). Promoting the effective use of information in decision making. Paper presented at the 24th annual forum of the Association for Institutional Research, Fort Worth, TX.

Gaither, G., Nedwk, B., & Neal, J. (1994). Measuring Up: The Promises and Pitfalls of Performance Indicators in Higher Education. ASHE-ERIC Higher Education Report No. 5. Washington D.C: The George Washington University, Graduate School of Education and Human Development.

Greenburg, J. (1975). The Role of Institutional Research as Practiced in the Public Community-Junior Colleges of the United States. Dissertation, Boston University.

Gutter, M. (1987). The role of institutional research in the two-year colleges of the United States. Dissertation, Ohio University.

Hanson, R. & Price, B. (1992). Academic Program Reviews. In M. Whiteley, J. Porter & R Fenske (ed.) The Primer for Institutional Research. Tallahassee, FL: Association for Institutional Research.

Hardy, J. (2000). Teaching faculty participation in college/university-wide institutional research projects. College Student Journal 34 (4), 652-7.

Hartnett, R. (1975). Strengthening institutional quality through institutional research. New Directions in Higher Education. San Francisco: Jossey-Bass.

Hefferlin, L. & Phillips, E. (1971). Information Service for Academic Administration. San Francisco: Jossey-Bass.

Hoey, J. (1995). Impact of program review on community colleges. <u>New Directions for Institutional Research Volume 86.</u> San Francisco: Jossey-Bass.

Howard, R. (2001). <u>Institutional Research: Decision Support in Higher Education.</u> Tallahassee, FL: Association of Institutional Research.

Jones, L. (1996). A brief history of the fact book as an institutional research report. <u>New Directions for Institutional Research Volume 91.</u> San Francisco: Jossey-Bass.

Kinnick, M. (1985). Increasing the use of student outcomes information. <u>New Directions for Institutional Research Volume 47.</u> San Francisco: Jossey-Bass.

Kotler, P. (1975). <u>Marketing for Non-Profit Organizations</u>. Englewood Cliffs, NJ: Prentice Hall.

Lucas, J. (1979). Developing a marketing plan. <u>New Directions for Institutional Research.</u> San Francisco: Jossey-Bass.

Manning, C. (2001). Review of Defining Our Future Work Process. (http://www.tbr.state.tn.us/press_releases/definingfuture.htm).

Marks, J. (1996). <u>New Directions for Institutional Research Volume 91.</u> San Francisco: Jossey-Bass.

Massey, W.F. (1994). Measuring performance: how colleges and universities can set meaningful goals and be accountable. <u>ASHE Reader on Planning and Institutional Research.</u> Needham Heights, MA: Pearson Custom Publishing.

Massy, W.F. (2003) <u>Honoring the Trust: Quality and Cost Containment in Higher Education</u>. Bolton, MA: Anker.

Matier, M., Sidle, C. and Hurst, P. (1995). Institutional researchers' roles in the twenty-first century. <u>New Directions for Institutional Research Volume 85.</u> San Francisco: Jossey-Bass.

Matsen, M. (1991). <u>The role of formal information providers in the delivery of computerized information to top level administrators in the community college</u>. Dissertation, University of Oregon.

Morrison, J. (1995). Environmental scanning. In M. Whiteley, J. Porter & R Fenske (ed.) <u>The Primer for Institutional Research</u>. Tallahassee, FL: Association for Institutional Research.

National Commission on Responsibilities for Financing Postsecondary Education (1999). Making college affordable again. Washington DC: Final Report of the Commission (February), 56.

Nichol, J. (1989). Institutional Effectiveness and Outcomes Assessment on Campus: A Practitioner's Handbook. New York, NY: Agathon Press.

O'Banion, T. (1989). Innovation in the Community College. New York: ACE/MacMillan.

Noble, J., Borden, V. and Massa, T. (1999). Technology utilization. AIR Electronic News. April 13, 1999.

Paola, E. & Padgett, W. (1971). Planning for Self-renewal. Berkeley, CA: Center for Research and Development in Higher Education.

Patton, M. (1978). Utilization-Focused Evaluation. Beverly Hills, CA: Sage.

Peterson, M. and Corcoran, M. (1984). Institutional research in transition. New Directions for Institutional Research Volume 46. San Francisco: Jossey-Bass.

Peterson, M. (1999). The role of institutional research: from improvement to redesign. New Directions for Institutional Research Volume 104. San Francisco: Jossey-Bass.

Ray, J. (1993). An investigation of institutional research in two year public colleges in the southeastern United States. Dissertation, The University of Tennessee.

Raymakers, S. (1999). An Examination of Distance Learning Utilization in Post-secondary Hospitality Management Programs. Dissertation, University of Nevada, Las Vegas.

Resource manual on institutional effectiveness (1987). Atlanta: Commission on Colleges of the Southern Association of Colleges and Schools.

Rigdon, J. (1983). Institutional Research and Organizational Effectiveness. Dissertation. Southern Illinois University at Carbondale.

Roney III, R. (1969). The Role of Institutional Research in the United States. Dissertation, University of Tennessee.

Rossman, J. & El-Khawas, E. (1987). Thinking about Assessment: Perspectives for Presidents and Chief Academic Officers. Washington, D.C.: American Council on Education.

Roueche, J. and Boggs, J. (1968). <u>Junior College Institutional Research: The State of the Art</u> (ERIC Document Reproduction Service No. ED 422 819).

Rowh, M. (1990). Job duties of institutional researchers in southern two year colleges. <u>Community and Junior College Journal 17</u>, 14-23.

Sanders, L. (1999). The future IR office. <u>New Directions for Institutional Research Volume 103.</u> San Francisco: Jossey-Bass.

Saupe, J. (1990). <u>The Functions of Institutional Research.</u> Tallahassee, FL: Association of Institutional Research.

Schaefer, E and Massa, T. (1999). The webs we weave: the dynamic IR office. <u>New Directions for Institutional Research Volume 103.</u> San Francisco: Jossey-Bass.

Seybert, J. (1991). The role of institutional research in college management. <u>School Organization 11</u> (2), 231-40.

Stewart, C. & Harvey, T. (1975). Strategies for significant survival. <u>New Directions in Higher Education.</u> San Francisco: Jossey-Bass.

Study uncovers keys to effective quality leadership. (February, 1994). <u>Quality Progress,</u> p. 14.

Stufflebeam, D. et al. (1971). <u>Educational Evaluation and Decision Making in Education</u>. Itasca, IL: Peacock.

Swanson, H. (1965). <u>An Investigation of Institutional Research in the Junior Colleges of the United States.</u> Dissertation, University of California.

Tetlow, W. (1979). From history observed: one more prophecy. <u>New Directions for Institutional Research Volume 23.</u> San Francisco: Jossey-Bass.

Terenzini, P. (1993). On the nature of institutional research and the knowledge and skills it requires. <u>Research in Higher Education 34</u> (1), 1-10.

Van Istandal, T. (1969). <u>A Study of Community College Institutional Research.</u> Dissertation, Michigan State University.

Volkwein, J. (1999). The four faces of institutional research. <u>New Directions for Institutional Research Volume 104.</u> San Francisco: Jossey-Bass.

Wells, J., Silk, E. and Torres, D. (1999). Accountability, technology, and external access to information: implications for IR. <u>New Directions for Institutional Research Volume 103.</u> San Francisco: Jossey-Bass.

Wharton, L. (1997). Observations on community college leadership. <u>Community College Review 25</u> (1), 15-29.

Witt, A. et al. (1994). <u>America's Community Colleges: The First Century</u>. Washington, D.C.: Community College Press.

APPENDIX

Appendix A: Survey Instrument

SURVEY of TENNESSEE COMMUNITY COLLEGES
OFFICES OF INSTITUTIONAL RESEARCH

Directions: This survey may be completed by checking the appropriate box for each question. For those questions requiring a written response, please write your response in the space provided. There are four parts to this survey. The survey should take less than 20 minutes to complete.

1) CHARACTERISTICS OF THE OFFICE OF INSTITUTIONAL RESEARCH

    a) Division of college in which IR office is positioned and title of person to whom IR

        Director reports (on line following)

        i) Academic Affairs _____

        ii) Student Affairs _____

        iii) Business Affairs _____

        iv) Institutional Advancement _____

        v) Office reports to President (CEO) _____

        vi) Other (please indicate location) _____

    b) How many professional staff (exempt) members are employed in the Office of

        Institutional Research (including yourself)?

        i) Full-time _____

        ii) Part-time _____

    c) How many support staff (non-exempt)

        i) Full-time _____

        ii) Part-time _____

    d) How many student workers are employed in the Office of Institutional Research?

        i) Headcount _____

        ii) Average number of hours per week _____

If you use student workers in your Office of Institutional Research, briefly describe the types of duties assigned to them:

2) CHARACTERISTICS OF THE DIRECTOR (CHIEF OFFICER) OF INSTITUTIONAL RESEARCH:
   a) Age
      i) 21-30
      ii) 31-40
      iii) 41-50
      iv) 51-60
      v) 61 and over

   b) Gender
      i) Female
      ii) Male

   c) Ethnicity
      i) Asian/Pacific Islander
      ii) Alaskan Native
      iii) American Indian
      iv) African American/Black
      v) Hispanic
      vi) Caucasian
      vii) Other

   d) Length of time in current position: _____ (indicate number of years)

   e) Total number of years in similar position at other institutions of higher education: _____ (indicate number of years)

   f) Highest post-secondary degree earned:
      i) None
      ii) Associates
      iii) Bachelors
      iv) Masters
      v) Doctorate

   g) Major field in which highest degree was earned: _____

   h) Have you had specialized training through additional college courses, workshops, seminars, or other professional development technique in institutional research?
      i) Yes
      ii) No
      If you answered Yes to this question, please briefly describe the type and extent of this training:

   i) Official title of the person completing this survey:

   _____

92

3) FUNCTIONS OF THE OFFICE OF INSTITUTIONAL RESEARCH:

    a) The following list of functions was developed from the literature on roles and responsibilities of the office of institutional research.

        i. In the *left hand column*, rate the relative **value** of each function to the institution.

        ii. In the *right hand column*, indicate the amount of **time** your office spends on this function.

Left Hand column: NF = not a function of the IR Office; 1 = little or no value; 2= moderate value; 3 = high value; 4 = very high value

Right Hand column: NT = no time; 1 = less than one time per week; 2= one to two times per week; 3 = three to four times per week; 4 = daily and regularly

NF	1	2	3	4	Function	NT	1	2	3	4
Value of function to your institution					**Institution-wide functions**	Amount of time spent on function				
					Institutional goal setting					
					Strategic planning					
					Institutional effectiveness					
					Institutional self-study for SACS accreditation					
					Policy evaluation					
					Special projects for President					
					Efficiency considerations					
					Budget analysis					
					Faculty productivity studies					
					Salary studies					
					Space/facility utilization studies					
					Administrative cost studies					
					Academic-centered functions					
					Academic program accreditation/program review					
					Curriculum & instruction studies and reports					
					Research/statistical analysis support for faculty/staff					
					Faculty/staff evaluation processes and reports					
					Student-centered functions					
					Enrollment management					
					Student demographic studies					
					Student satisfaction surveys & related studies					
					Student retention/persistence studies					
					Administer standardized testing					
					Analyze results of standardized testing					
					Student placement studies					
					Information reporting					
					IPEDS data collection and input					
					Compliance reporting					
					Fact book development and maintenance					
					External relations					
					Alumni studies					
					Community surveys					
					Employer surveys					
					Institutional image/marketing support					
					Administrative Duties					
					IR staff management/development/evaluation					
					IR department budget formulation/administration					
					Service on college-wide committees					

Please add functions of your office not listed above. Also, please explain if one of the above functions is not handled by your office but is a function of another college department.

B) TECHNOLOGY APPLICATIONS USED BY THE OFFICE OF INSTITUTIONAL RESEARCH:
  a. Please evaluate the current use of technology applications in your Office of Institutional Research.
     i. In the *left hand column*, indicate whether this type of technology application **is available** to you in your Institutional Research Office.
     ii. In the *right hand column*, indicate the **level of current use** of the described technology application for those that <u>are</u> available to you.

Left Hand column: NA = this technology is not available in your Institutional Research Office; [Note: If you check NA, go on to next line]
1 = very unimportant; 2= unimportant; 3 = important; 4 = very important; 5 = critical and essential

Right Hand column (level of current use): NT = no time; 1 = less than one time per week; 2= one to two times per week; 3 = three to four times per week; 4 = daily

Availability and Level of Importance of the technology application						TYPE OF TECHNOLOGY APPLICATION	Level of Current Use of technology application			
NA	1	2	3	4	5		1	2	3	4
						Use of email in Office of Institutional Research				
						Access to work email from home or a remote site				
						Use of a laptop or other portable computer device				
						Access to the Internet from office for work purposes				
						Use of web sites for research or reference				
						Development of your IR office web page				
						Maintenance and update of IR office web page				
						Use of spreadsheet software				
						Use of desktop database software				
						Use of desktop publishing software				
						Use of presentation software				
						Use of statistical analysis software				
						Use of campus data warehouses				
						Use of non-campus data warehouses or data marts				
						Use of programming languages to generate reports				

If the level of current use of a particular technology application is due to insufficient training on that technology, please explain.

Please describe any other information technology applications used by your office not listed above.

What are your technology-related needs? That is, if sufficient funds were available to you, what technology-related resources (hardware, software, training, etc.) would you select to support the functions of your Institutional Research Office? (Please list top five priorities)
1
2
3
4
5

Appendix B: Survey Cover Letter

Randolph C. Schulte
2812 St. Lawrence Road
Chattanooga, TN 37421

Send date, 2003

Dear Director of Institutional Research:

As the 21st Century unfolds, the challenges presented by institutional effectiveness expectations, competitive market forces, and accountability requirements are impacting the governance of the community college. These challenges accentuate the many significant roles that offices of institutional research play in Tennessee community colleges.

As a community college educator in Tennessee and a doctoral candidate at the University of Tennessee in Leadership in Teaching and Learning, I am performing research examining the functions of offices of institutional research at Tennessee community colleges. I am especially interested in descriptive data regarding the offices of institutional research, the use of technology by offices of institutional research, and how Tennessee's community college presidents use offices of institutional research in making decisions.

I seek your assistance through your completion of the enclosed survey. It is anticipated that completing the survey will take approximately 20 minutes. Be assured that all responses will be kept confidential. Your name will not be associated with the instrument. I will report only aggregated data and in no way identify the source of a specific response. Information from responses by the director of institutional research of each Tennessee community college will complement data from college presidents collected via a separate interview to be held with each college president. Upon completion of the study, you will be provided with a detailed summary of the findings.

Your participation in this in this study is voluntary. However, in order for the results to be truly representative of the population of Tennessee community colleges, it is very important that you participate. I have enclosed a postage paid business reply envelope for your return. Thank you for your prompt response of this survey instrument.

If you have any questions regarding this research, please contact me at (423) 697-3249. Thank you for your cooperation and your participation in this research project.

Respectfully,

Randolph C. Schulte
Doctor of Education candidate
Randy.schulte@chattanoogastate.edu

Appendix C: Survey Follow-up Letter

Randolph C. Schulte, Assistant Dean of Humanities
Chattanooga State Technical Community College
4501 Amnicola Highway
Chattanooga, TN 37406-1097

<u>Send Date</u>, 2003

Dear Director of Institutional Research:

In April 2003, you received a request from me to complete a questionnaire entitled *Survey of Tennessee Community Colleges Offices of Institutional Research*. To date, eleven of the thirteen surveys that I sent have been completed and returned. The data provided by these responses is invaluable for my research leading to the doctoral degree at the University of Tennessee in Leadership in Teaching and Learning.

If you have already completed and returned the survey, thank you very much! If for some reason you have <u>not</u> yet completed and returned the survey, I ask you to do so at your earliest convenience. If you require another copy of the document, please contact me at the number or email below. I will forward a copy electronically immediately. Participation by institutional research professionals at all of the Tennessee community colleges is essential to the research project. Your cooperation is very much appreciated.

I have nearly completed the second phase of the research project, which entails face-to-face interviews with each of Tennessee's community college presidents to determine their use offices of institutional research in making decisions. I am encouraged by their detailed responses and the data that those interviews have provided.

Once again, all responses will be kept confidential. Your name will not be associated with the instrument. I will report only aggregated data and in no way identify the source of a specific response. Information from responses by the director of institutional research of each Tennessee community college will complement data from college presidents collected via a separate interview to be held with each college president. Upon completion of the study, you will be sent a detailed summary of the findings.

If you have any questions regarding this research, please contact me at my college office at (423) 697-3249 or email me at the address below. Thank you for your cooperation and your participation in this research project.

Respectfully,

Randolph C. Schulte
Doctor of Education candidate Randy.schulte@chattanoogastate.edu

Appendix D: Interview Protocol

Protocol for the Interview Sessions with the College Presidents

Name:
Title:
Institution:
Time:
Date:
Location of Interview:

Interviewer: The purpose of this study is to investigate the role of the office of Institutional Research in Tennessee community colleges, specifically by addressing its functions, use of technology, and its impact on decision-making by community college Presidents. The following questions seek your perceptions of your own office of institutional research and how you use that office in your decision-making processes.

Questions:
1. What functions do you expect your office of institutional research to fulfill on a regular, ongoing basis?
2. From your perspective, what functions does your office of institutional research perform especially well?
3. Again from your perspective, what functions performed by your office of institutional research could be improved or expanded?
4. When and how do you communicate and interact with your office of institutional research and why?
5. How do you use the office of institutional research to support decision-making? [NOTE: If an example is not given in response to this question, prompt interviewee as follows: Is there a recent situation where you have used your office of institutional research to help you form a decision? If so, could you briefly describe that situation?
6. In what ways other than those already mentioned do you use and value your office of institutional research?
7. What do you see as the future role of institutional role in support of decision-making by college presidents at the community college?

Appendix E: Interview Cover Letter

Randolph C. Schulte
2812 St. Lawrence Road
Chattanooga, TN 37421

Send date, 2003

Dr. _____ , President
_____ Community College
Address
City, Tennessee Zip

Dear Dr. _____:

I am the Assistant Dean for the Humanities at Chattanooga State and a graduate of the inaugural class of the Regents Community College Leadership Academy. To fulfill requirements for my doctoral degree at the University of Tennessee in Leadership in Teaching and Learning, I am examining the functions of offices of institutional research at Tennessee community colleges. I am particularly interested in how Tennessee's community college presidents use institutional research in making decisions. I seek your assistance through your participation in an interview with me. I would like to schedule this interview with you during the month of April, 2003 at your campus.

The protocol for this interview involves a set of seven questions regarding the role of institutional research at your community college, especially in regards to your use of that office in making decisions. Your responses will not be taped, but recorded by me as interview notes. Be assured that all responses will be kept confidential. I will report only aggregated data and in no way identify the source of a specific response. Information from responses by college presidents will complement data from the director of institutional research of each Tennessee community college collected via a separate survey instrument being mailed directly to that individual's office. Upon completion of the study, you will be provided with a detailed summary of the findings.

I will call your office shortly after you receive this letter to establish a day and time for an appointment for this interview. I anticipate that the interview period will be thirty minutes.

If you have any questions regarding this research, please contact me at (423) 697-3249. Thank you for your consideration. I look forward to speaking with you soon.

Respectfully,

Randolph C. Schulte
Doctor of Education candidate

Appendix F: Interview Confirmation Letter

Randolph C. Schulte
2812 St. Lawrence Road
Chattanooga, TN 37421

Send date, 2003

Dr. _____, President
_____ Community College
Address
City, Tennessee Zip

Dear Dr._____:

    This is to confirm my appointment to meet with you on DATE & TIME in your office. At that time, I will conduct a brief interview regarding your perceptions and uses of the institutional research function at COLLEGE NAME as part of the information gathering process for my doctoral dissertation. I anticipate that the interview period will be thirty minutes.

    Thank you for this opportunity. I look forward to seeing you then.

Sincerely,

Randolph C. Schulte
Doctor of Education candidate
Randy.schulte@chattanoogastate.edu
(423) 697-3249

Appendix G: Interview Thank You Letter

<div align="center">
Randolph C. Schulte
2812 St. Lawrence Road
Chattanooga, TN 37421
</div>

Send date, 2003

_____, President
_____ Community College
Address
City, Tennessee Zip code

Dear Dr. _____:

Thank you for the opportunity to interview you with regards to your perspectives on presidential decision-making and institutional research on DATE, 2003. Your participation is instrumental to the success of my dissertation research process. I appreciate your candid and thorough elucidation of the roles assumed by the institutional research team at COLLEGE NAME and the importance of institutional research in support of your leadership responsibilities.

I am currently in the final stage of data acquisition and I have begun to analyze data collected to date. I will inform you when my dissertation work is complete and accepted by my committee. At that time, I will also provide you with an executive summary of findings, conclusions, and suggestions for future research.

If you have any questions regarding my research, please feel welcome to contact me at (423) 697-3249 or via email at the address given below. Once again, thank you for your cooperation with my research project and for your commitment to professional development and quality improvement in higher education. I know that our association has enhanced my leadership skills significantly.

<div align="center">
With best regards,

Randy Schulte
Doctor of Education candidate
Randy.schulte@chattanoogastate.edu
</div>

Appendix H: Informed Consent Form

INFORMED CONSENT STATEMENT FOR: "An Investigation of Institutional Research in Tennessee Community Colleges: Functions, Technology Use, and Impact on Decision-making by College Presidents"

A.   INTRODUCTION   You are being invited to voluntarily participate in an interview of Presidents of Tennessee Community Colleges as part of a doctoral dissertation research project. The purposes of this study are 1) to gather descriptive data in order to define the roles and responsibilities of the office of institutional research; 2) to collect data that describe the type and level of utilization of new technologies by offices of institutional research; and 3) to determine the perceptions and utilization of the office of institutional research by each Tennessee community college president.

B.   INFORMATION ABOUT PARTICIPANTS' INVOLVEMENT IN THE STUDY   Your involvement in the study would include participating in a 25-minute private interview during the month of April or May 2003.

   1) The interview will be scheduled and conducted at your college or at a site and time mutually agreed upon with the researcher.
   2) Randolph C. Schulte, the researcher and candidate for the Doctor of Education degree from the University of Tennessee (UT), will conduct the interview.

C.   RISKS   There is minimal risk to your participation in this evaluation.

D.   BENEFITS   Benefits to your participation include the contribution of information that could be used to improve the role of the offices of institutional research at Tennessee community colleges. Participants will be provided with results of the research in the form of an executive summary of the dissertation.

E.   CONFIDENTIALITY   Confidentiality of interview results (participant comments) will be maintained. Participant comments will not be attributed to specific individuals. Data will be stored securely and only made available to the researcher. Selected comments made may be included in the evaluation report, but not attributed to individuals.

F.   CONTACT INFORMATION   If you have questions at any time about the study or the procedures (or you experience adverse effects as a result of participating in this study), you may contact the principal investigator, Randolph C. Schulte, at Chattanooga State Technical Community College, 4501 Amnicola Highway, Chattanooga, TN 37406-1097, or call (423) 697-3249; or you may contact the Advisor, Dr. Russell French, University of Tennessee, at (865) 974-4243. If you have questions about your rights as a participant, contact Research Compliance Services of the Office of Research at (865) 974-3466.

G.   PARTICIPATION   Your participation in this study is voluntary; you may decline to participate without penalty. If you decide to participate, you may withdraw from the study at anytime without penalty and without loss of benefits to which you are otherwise entitled.

CONSENT   I have read the above information. I have received a copy of this form. I agree to participate in this study.

Participant's signature _____ Date _____

Investigator's signature _____ Date _____

Vita

Randolph Charles Schulte was born in Queens, New York on October 27, 1953. He grew up in Newark Valley, New York, where he graduated from Newark Valley Central School as Valedictorian in 1971. From there, he attended the University of North Carolina at Chapel Hill where he was elected into Phi Beta Kappa and was awarded the Bachelor of Arts degree in Comparative Literature in 1974. Randolph then attended Colgate University in Hamilton, New York and earned the Master of Arts in Teaching degree *cum laude* in 1978. He received the Ed. D. in Education from the University of Tennessee at Knoxville in 2005.

Randolph is currently working as the Department Chair of Humanities at Chattanooga State Technical Community College in Chattanooga, Tennessee.