ALIGNING POLICY AND PRACTICE:

INFORMATION AND INSTRUCTIONAL TECHNOLOGY PLANNING

IN THE UNIVERSITY SYSTEM OF GEORGIA

by

KAREN A. WEBB

(Under the direction of LIBBY V. MORRIS)

ABSTRACT

The proliferation of technological tools and general innovation in technology has forced universities to re-examine technology as a critical component in the overall strategic planning process. However, few institutions develop technology plans and fewer plan beyond physical infrastructure and accompanying software. In addition, university systems are typically organized so that individual member institutions develop unique mission statements reflective of their autonomy.

This research project explores how one university system and its member institutions address issues of technology as a matter of strategic institutional and system-wide planning. This study examines strategic planning documents that reflect the institutional vision for Information and Instructional Technology planning. The purpose of the study is to determine the status of Informational and Instructional Technology planning for each institution and the extent of alignment of institutional plans with the university system plan. By investigating the components of individual institutional plans, a comprehensive model can be constructed for the

university system as a whole, which reflects institutional objectives, practice and performance. A cursory exploration will be employed to benchmark effective technology plans.

Three primary data sources are utilized in this exploration: Campus Strategic and IIT Plans, USG data from the *Campus Computing Survey* and interviews with key technology professionals as identified by the Board of Regents. The results are designed to assist institutions with their information and instructional technology planning and are not intended to be an assessment of current institutional performance.

INDEX WORDS: Information and Instructional Technology Planning, IIT Planning, Strategic Technology Planning, State University System Strategic IIT Planning

ALIGNING POLICY AND PRACTICE:
INFORMATION AND INSTRUCTIONAL TECHNOLOGY PLANNING
IN THE UNIVERSITY SYSTEM OF GEORGIA

by

KAREN A. WEBB

B.A., Florida International University, 1991

M.Sc., Nova Southeastern University, 1998

A Dissertation Submitted to the Graduate Faculty of The University of Georgia in Partial Fulfillment of the Requirements for the Degree

DOCTOR OF EDUCATION

ATHENS, GEORGIA

2005

ALIGNING POLICY AND PRACTICE:

INFORMATION AND INSTRUCTIONAL TECHNOLOGY PLANNING

IN THE UNIVERSITY SYSTEM OF GEORGIA

by

KAREN A. WEBB

Approved:

Major Professor: Libby V. Morris

Committee: J. Thomas Bowen, Jr.
Arthur N. Dunning
Julie I. Tallman
Scott L. Thomas

Electronic Version Approved:

Maureen Grasso
Dean of the Graduate School
The University of Georgia
May 2005

DEDICATION

Dedicated to the memory of my grandparents, Richard and Rosetta Suckoo, who instilled the priceless value of higher education in their four children and nine grandchildren.

"To whom much is given, much is required" Luke 12:48

ACKNOWLEDGEMENTS

I wish to acknowledge the purposeful guidance of my committee chair, Dr. Libby V. Morris. Her attention to detail and resolute commitment to this project was just the motivation I needed. Through the invaluable contributions of my committee members: Dr. J. Thomas Bowen, Dr. Arthur Dunning, Dr. Julie Tallman and Dr. Scott Thomas, this study gained life.

To the Vice Chancellor for Information Technology and CIO for the University System of Georgia, Mr. Randall Thursby; Assistant Vice Chancellor for Information Technology, Dr. Tom Maier; and Associate Director for Advanced Learning Technologies, Dr. Catherine Finnegan. Thank you for granting me access to university system documents. I appreciate your support and the opportunity to conduct research on a vital and emerging topic.

Few doctoral students forget their community of supporters, some going through a similar process. Michelle and Meg, your candid comments and words of wisdom were well heeded. Thank you and congratulations to you both for completing your dissertations so that I may learn from your example. To my editor, Stephen Marquardt, who volunteered to be my third set of eyes. To my mentor, Dr. Karen Holbrook, who thoughtfully guides me and encourages me to lofty heights.

To my family and friends, your prayers have not been in vain. To Bob, whose truth is my reality check, you are my best friend for life.

Thank you all, for joining me on this journey.

TABLE OF CONTENTS

ACKNOWLEDGEMENTS……v

LIST OF TABLES……vii

LIST OF FIGURES……viii

CHAPTER

1 INTRODUCTION……1

2 REVIEW OF RELATED LITERATURE……18

3 METHODOLOGY……49

4 FINDINGS AND RESULTS……73

5 CONCLUSIONS……90

REFERENCES……113

APPENDICES……117

A ALPHABETIZED LIST OF THE ALL THE INSTITUTIONS IN THE UNIVERSTY SYSTEM, THEIR USG CLASSICIFICATION AND THEIR ASSIGNED TYPE……118

B E-MAIL/LETTER REQUESTING PARTICIPATION IN THE STUDY……120

C CONSENT FORM……121

D INTERVIEW PROTOCOL……122

E UNIVERSITY SYSTEM OF GEORGIA INSTITUTIONS BY TYPE AND FINDINGS FROM THE CAMPUS COMPUTING SURVEY……124

F IN-PERSON, TELEPHONE INTERVIEW AND EMAIL QUESTIONNAIRE COMPREHENSIVE RESPONSES FROM INSTITUTIONAL REPRESENTATIVES……128

G THE [USG] PLANNING PROCESS……132

LIST OF TABLES

Table 1. A Historical Overview of Foundational Technology Planning Efforts……10

Table 2: Classification of USG Institutions for Research Project……53

Table 3: Institutional Responses to Request for Participation…….64

Table 4: A Summary of the Findings from the Institutional Strategic Plans by Institution Type……...75

Table 5: Comparisons of ACIT Core Team Guidelines and Institutional IIT Strategic Plans for Alignment……81

LIST OF FIGURES

Figure 1: NCRTEC Model for Technology Planning……...27

Figure 2: A Map of University System of Georgia Institutions……52

Figure 3: An Amalgamation of Astin Assessment and the NCRTEC Planning models…….67

Figure 4: Proposed Model from the Results of the Study……...110

CHAPTER 1

INTRODUCTION

Among higher education's basic management functions, planning is often the instrument through which other managerial and organizational functions are addressed. The activities of academic program development, resource allocation, facilities management, fund raising, and enrollment management require ongoing planning and development. There are several types of planning prevalent in higher education: strategic planning, long range planning, tactical planning and operational or performance-improvement planning. Regardless of the type of planning model utilized, the purpose of planning is to assist the institution in reaching goals and objectives and in achieving effectiveness in all of management's functions.

In an age of rapid advancements in technology and the growing expectation of higher education for "anytime, anywhere" services, failure to plan for the growth of technology presents significant challenges to the effectiveness of individual institutions as well as systems of institutions. The University System of Georgia (USG) and other institutions or systems of institutions are dealing with the task of balancing immediate needs with anticipated needs while providing good stewardship in lean fiscal times. The need to measure progress through enrollment growth, financial advancement and institutional assessment has resulted from a public cry for accountability of spending state funds in higher education. In addition, this age of accountability necessitates the cultivation of institutional assessment activities in every facet of higher education to supply data and information to accountability processes, including technology planning.

Information and instructional technology planning is a relatively new activity at the senior administrative levels of educational institutions. While the public has a clear understanding of the value of everyday technology tools such as blackberrys and cell phones, the need for and value of upgrading severs, enhancing email systems or updating entire student information systems, is often not recognized by the campus community, at-large. Only recently, have Presidents and Provosts begun to convey the importance of maintaining current technologies, as they observe the value of the tools, data and reports that are made available from technology upgrades. IIT planning makes enhanced services to the campus community a primary main goal.

Higher education emulates models of technologically efficient environments in which the managed growth of information and instructional technology (IIT) are addressed in strategic IIT planning activities. Examples of such environments can be found where the specific elements of technology planning are integrated in the institutional accountability benchmarking and assessment activities that are actively underway. Dolence and Norris (1995) suggest that universities and university systems that embark on such a process are well on their way to realignment with the imperatives of the institution. This study was designed to explore the status of IIT planning and its function in centralized institutional processes that inform overall strategic vision of the institution as well as the University System of Georgia.

Research on technology planning emerged in the late nineties and has recently gained momentum. In 2003, several articles appeared in the literature with a discussion of a broad-spectrum of issues on technology planning. This advancement of research has encompassed topical areas that were previously researched and discussed separately, such as hardware, software, information systems, data management, data warehousing, and planning. Three main

areas have clearly emerged around which research-based discussions are now focused. One discussion strand centers on instructional technology and aspects of establishing the foundations to integrate technology in the instructional enterprise. Another examines the infusion of technological tools in the classroom, and the third maps the more current trend of anticipating the technological needs of the institution through planning.

Instructional technology research by Altbach, Berdahl, and Gumport (1999) frames the framework of technology as a 21st century issue in the higher education arena. Baule (2001) describes effective technology planning practices in the K-12 arena. Gaff and Ratcliff (1996) investigate practices in the undergraduate curriculum where technology may be appropriate, and Dolence and Norris (1995) create a vision for the impact of technology in the transformation of higher education in the 21st century. Early research suggests that instructional technology plans develop from a series of guiding questions rather than the reliance on models to guide approaches to planning. There have been few graphic representations of an inclusive technology plan evident in the literature. In 2000, research by the North Central Regional Technology in Education Consortium (NCRTEC) led to the development of a model to frame the discussion and contextualize the practical approaches in the K-12 arena that have proven successful. The major focus of this thread of research is the transformation of the curriculum through the integration of technology.

Another body of research focuses on the broad topic of strategic technology (inclusive of information and instructional technology) planning. The research and discussions are almost solely guided by professional organizations such as the Society for College and University Planning (SCUP) and EDUCAUSE. SCUP publications primarily focus on the specific elements of campus strategic planning. In 2002, SCUP dedicated an entire issue to IT Strategic Planning.

In contrast, EDUCAUSE publications generate research and discussions on the specific elements of IIT planning which include hardware, software, security, administration and purchasing policies. Core ideas that dominate this discussion originate from researchers such as Shirley (1988), Katz (1999), and Crawford and Rudy (2003). This research encompasses the type of strategic planning that focuses on current issues and the broad institutional vision to guide institutional fundraising and development activities. The President, the Chief Academic Officer, the Chief Financial Officer or Chief Planner assumes the leadership role of shepherding the strategic plan through the academic, political and administrative governance structures toward adoption. Therefore, issues of assessment, accountability and transformational change often dominate the IIT strategic planning discussion.

IIT Planning is a subset of campus strategic planning and is a relatively new phenomenon in the larger context of planning in higher education. Although planning occurs at almost every institutional level, customary forms of campus planning include facilities master planning, academic planning, enrollment planning and more recently, information and instructional technology (IIT) planning. Facilities master planning emerged in the last decade from the need to create the layout of the campus and erect buildings in a manner that promotes the greatest academic efficiency. Facilities' planning takes place on most college campus. Academic planning is a second major campus undertaking and is necessary to implement curricular programs and promote curricular renewal (Stark and Lattuca, 1997).

Enrollment planning is a recent addition to the traditional forms of planning. Dwindling resources and dependence on enrollments have prompted institutions to anticipate how enrollment growth rates will affect current academic resources. Facilities master planning and enrollment management planning generate financial resources through capital campaigns and

student tuition payments. Unlike facilities and enrollment planning, academic planning and IIT planning are often viewed as consumers (rather then generators) of financial resources, and these activities have not yet achieved the priority given to facilities and enrollment planning. In reality, academic planning encourages curricular expansion, which promotes course enrollment and therefore may increase tuition revenue. As the most recent addition to the planning foursome, IIT planning facilitates the implementation of online courses, enhances the technological infrastructure, and supports software development to support enhanced instruction.

The foundation for IIT planning lies in the need to manage the growth of technology at all levels of the campus. The wide array of instructional and information technology tools require identification, centralization, and integration to maximize the value and return on this financial investment. Interestingly, the potential for IIT planning to generate funding is only beginning to be recognized. For example, some institutions have tapped the interest in online courses and programs to generate additional funds from a differential tuition rate. Others see the naming opportunities for buildings housing new technologies. To date, however, traditional higher education has not fully embraced the opportunity and intellectual innovation presented by technological integration. As the newest form of planning, IIT planning is embedded among better-known forms of planning and competes for priority in activities and resources.

The most recent research defines strategic information technology planning as a unique set of actions, activities and processes apart from, but related to the larger institutional strategic planning activities. Research in this arena in 2004 illuminates the importance and breadth of administrative technology tools (e.g. email, databases, data mining and information access/reporting) as compared to earlier research, which emphasized on instructional technology tools. Efficient data management is a current issue for administrative decision-making and

sometimes eclipses the need to improve upon the instructional technologies (e.g. WebCT, Blackboard, and Flash) currently in use across the nation's colleges and universities. This is one example of the growing concern for competing priorities in the technology arena. Kenneth Green has championed the research on institutional technology issues and competing priorities. Green (2000) conducts an annual institutional survey on technology called the *Campus Computing Project* to identify technology issues and challenges facing college and universities. Green's research provides a clear indication of the specific elements included in each institution's description of information technology through descriptions and information reported by the institutions themselves. In many cases, the term "information technology" appears in the literature as an all-inclusive term to include information and instructional technology (IIT) related issues and concerns that dominate discussions of institutional growth and advancement. The appropriate term as evident from the current literature is "information and instructional strategic technology planning" or IIT strategic planning in short.

For the purposes of this research, instructional technology and information technology are discussed in tandem because of their random aggregation or separation in IIT research and their close-knit codependent nature. The researcher hopes that descriptions of institutional information and instructional technology planning will tease out the specific components that define the scope of institutional planning processes underway at the research site. This study takes an inclusive approach to the description of IIT strategic planning (includes information and instructional technology issues), the analysis of institutional technology plans, and the overriding governance structures that guide institutional technology plans. The lack of IIT strategic planning research originating in traditional peer-reviewed journals limited the relevant literature useful for this research.

Purpose of the study

The purpose of this study is to explore the nature and status of strategic planning for information and instructional technology in the thirty-four member institutions of the University System of Georgia (USG). Specifically, this study attempts to determine the status of IIT strategic planning by the system institutions, identify the processes that guide the IIT strategic planning process, and identify overlapping issues and their impact on technology planning at the institutional and at the system level. The study was guided by the following research questions:

1. What is the status of IIT planning at university system institutions?
2. In what ways do the institutional plans reflect the Strategic IIT Plan of the University System of Georgia?
3. What are the organizational structures and processes that support institutional planning efforts?
4. How were these planning processes selected and delineated?
5. How closely do institutional IIT planning processes and structures align with the university system's strategic planning processes and structures?
6. How is IIT planning assessed and reported to the university system?

Colleges and universities are such large and complex entities that processes and activities often take place without scrutiny. However, when the very existence of those processes and activities are dependent on the decisions made by an upper hierarchy, it is important for the senior administrators to receive information on the outcomes of the processes and activities. The governing body for institutions that are members of a university system should be aware of and informed by the outcomes of critical institutional processes. Consequently, the system and

member institutions should benefit from the outcomes of studies examining an IIT strategic technology planning information-delivery system for the USG.

The Research Site

The web site for the University System of Georgia (USG, 2003) states that the system "consists of 34 institutions: four research universities, 2 regional universities, 13 state universities, 2 state colleges, and 13 two-year colleges. These institutions enroll more than 233,000 students and employ more than 9,000 faculty and 35,000 employees to provide teaching [research, service] and related services to students and the communities in which they are located. The University System of Georgia's Board of Regents (BOR) was created in 1931 as a part of a reorganization of Georgia's state government. With this act, public higher education in Georgia was unified for the first time under a single governing and management authority. The governor appoints Board members who each serve seven-year terms. Today, the Board of Regents is composed of 18 members, five of whom are appointed from the state-at-large, and one from each of the 13 congressional districts. Members of the Board elect a chancellor from the membership to serve as its chief executive officer and the chief administrative officer of the University System" (http://www.usg.edu/regents/, 2005).

The vision of the University System of Georgia states, "The University System of Georgia will create a more educated Georgia, well prepared for a global, technological society, by providing first-rate undergraduate and graduate education, leading-edge research, and committed public service." The mission of the University System of Georgia is to contribute to the educational, cultural, economic, and social advancement of Georgia by providing excellent undergraduate general education and first-rate programs leading to associate, baccalaureate,

masters, professional, and doctorate degrees; by pursuing leading-edge basic and applied research, scholarly inquiry, and creative endeavors; and by bringing these intellectual resources, and those of the public libraries, to bear on the economic development of the State and the continuing education of its citizens (USG, 2005).

According to the website (http://www.usg.edu/about/statements.phtml, 2005), each institution in the University System of Georgia [is] characterized by:

1. A supportive campus climate, leadership and development opportunities, and necessary services and facilities to meet the needs of students, faculty, and staff;

2. Cultural, ethnic, racial, and gender diversity in the faculty, staff, and student body, supported by practices and programs that embody the ideals of an open, democratic, and global society;

3. Technology to advance educational purposes, including instructional technology, student support services, and distance education; and

4. A commitment to sharing physical, human, information, and other resources in collaboration with other System institutions, the public libraries, state agencies, local schools, and technical colleges to expand and enhance programs and services available to the citizens of Georgia".

In meeting these goals, the University System of Georgia will hold itself accountable to the citizens of Georgia for the effective and efficient use of every available material resource, new technology, and human insight and activity and will charge its collective intellectual power on

behalf of the state (http://www.usg.edu/admin/regents/index.html, 2005). It is the third characterization of the USG as stated above, that is the focus of this study.

History of IIT Planning in the University System of Georgia

In 2001, the University System of Georgia launched a process to develop an enhanced comprehensive strategic technology plan. Developing and communicating this collective vision for thirty-four (34) institutions is an evolving process. This study examines institutional efforts to align the processes of institutional technology planning with planning guidelines developed at the university system level amid dynamically occurring processes.

A historical overview of technology planning in the USG suggests that strategic planning and planning for information and instructional technology are closely tied. The evolutionary history of information and instructional technology planning efforts shown in the table below provides a context for the current IIT strategic planning efforts underway. This brief history serves as a point of reference for this study.

Table 1. A Historical Overview of Foundational Technology Planning Efforts

The USG IIT Story	
1971 – 1989	National Science Foundation grant leads to development of first System computing group – University System Computer Network (USCN) composed of campus computing leaders appointed by institutional presidents. University of Georgia Director of Computing Activities also appointed as System's Assistant Vice Chancellor for Computing Systems.
1989 – 1990	Office of Information Technology approved and headed by a new Vice Chancellor (VC) reporting to the Chancellor. OITPLAN developed setting directions for System IT. New Administrative Committee on Information Technology (ACIT) approved. PeachNet, the system's IP Network, implemented to connect all campuses to each other and to the Internet.

The USG IIT Story	
1994 – 1996	New Chancellor appointed. Vice Chancellor for IT moved to report to new Senior Vice Chancellor for Academic Affairs. New USG strategic plan developed with IT included in the plan's *Principles for Action.* New special IT initiatives: GALILEO, Connecting Teachers, Technology, Connecting Students and Services, and the Desktop Learning Initiative. New Designation as the Office of Information and *Instructional* Technology.
1997 – 1999	Replacement appointed for Vice Chancellor for IT with added title of Chief Information Officer (CIO). Unit responsible for developing and programming instructional technology and distance learning, Advanced Learning Technologies (ALT), moved to report directly within Academic Affairs. BOR "Year of Technology" (1998-1999) produces report, *Educational Technology and the Age of Learning*, contains 16 principles focusing on effective use of technologies in improving teaching and learning.
1999 – 2000	VC/CIO replacement appointed. Public Libraries become part of the USG. Development of the Master Plan for Information and Instructional Technology with the assistance of Arthur Anderson focused on an evaluation of current conditions, tactical actions needed to correct major problems, and a recommendation for the formation of the BOR standing committee on Information and Instructional Technology (BOR IIT Committee).
2001 – 2002	The new USG Vision, Mission, and Goals are developed. The BOR IIT Committee approves a project to develop a System-level Strategic Plan for Information and Instructional Technology. Phase I of the Master Plan completed. The IIT Strategic Plan is developed with the assistance of Cornelius and Associates. Phase II of Master Plan involving the tactical action planning process begins.

Source: 2002 IIT Strategic Plan for the University System of Georgia

Description of the problem

The University System office, which is made up of the Chancellor, Vice Chancellors, Assistant/Associate Vice Chancellors and their staff provide administrative support to the BOR to facilitate actions on recommendations from the system office as well as recommendations from board members and university presidents. In 2002, the BOR adopted a governing strategic plan administered by the university system office. The BOR strategic plan

serves as a guide for institutions preparing campus plans. However, ensuring that the USG plan reflects the needs and functions of member institutions requires the system office to request data and information in the form of reports from system institutions. This mechanism of requests and reports has been in place since the beginning of the university system as a means to communicate institutional activities to the BOR. As institutions develop, they routinely update their missions and activities, the BOR's strategic plan for the university system has attempted to keep pace.

The expansion of technology into core institutional functions has only complicated this governance and reporting structure. Not only have institutions developed areas of expertise at their own pace to support their unique mission, but they have also grown and developed at a technologically different pace. In addition to program reviews, research enterprise reviews, accreditation reviews, tenure and promotion reviews, campus master plan reviews and athletic program reviews, institutions now undertake reviews of campus technology (instructional and information). With the unique rates of institutional growth, progress and development, it is fair to assume that some institutions may have just initiated their technology review process, while others could be well underway with comprehensive structural reviews that may include campus technology infrastructure. It is also fair to assume that in the last ten years that technology has mushroomed, few campuses have had adequate time to implement all the elements of a comprehensive IIT plan. While the USG may be aware of the growth and development of the technical infrastructure (how many computer labs, computers, servers, fiber optic networks, and local area networks), systematic knowledge of the structure and processes that inform technology planning remains largely unspecified. Therefore, the main goal of this study is to determine the status of campus IIT planning within the thirty-four member institutions. A secondary goal is to compare planning processes at the institutional level to the policies at the system level.

Comparing the guidelines on IIT strategic planning from the system perspective to the elements of IIT strategic planning at the institutional level provides information that represents a "gap analysis", the difference between what should be and what is. A "gap" exists when IIT strategic planning activities do not meet that declared guidelines from the BOR and the system office.

Data and Data Collection

The researcher conducted an extensive literature review to garner information on IIT strategic planning within a national and regional context to assist in framing issues that may be relevant to the University System of Georgia. Once the literature was reviewed, the researcher developed a protocol for collection and analysis of data and information. As a second step, the researcher reviewed institutional strategic plans submitted to the university system's office of Research and Strategic Analysis.

Multiple documents were necessary to address the research questions. Documents important to this research included the following:

- USG master (strategic) planning guidelines (http://www.usg.edu/ref/planning/master.phtml),
- Supporting documents from the USG IIT Strategic planning project (http://www.usg.edu/usgweb/iitsp/),
- The USG IIT strategic plan (2002),
- Institutional strategic plans, and
- Institutional IIT strategic plans.

Data from the system strategic plan and system IIT plan were reviewed and used as frameworks to understand the scope of planning expected at the campus level. Within the USG strategic plan are guidelines for the creation of specialized plans, such as enrollment management, fiscal plans, academic plans, and technology plans. The researcher reviewed the guidelines for the creation of institutional technology plans for comparison to the IIT plans themselves. The Associate Director of the Advanced Learning Technologies division supplied institutional strategic plans. Thirty-three plans were provided. Institutional IIT plans were identified and accessed at each institution's web site. Institutional reports and plans are routinely submitted to the system office of the USG to inform strategic decision-making and policy development.

The researcher was also granted access to university system data reported by individual institutions in response to the national *Campus Computing Survey*, administered annually by Kenneth Green (2003). The Associate Director of the Advanced Learning Technologies division supplied these data. Thirty-one institutions in the system participated in this survey. Following the review of CCS data and system and institutional documents, a series of open-ended questions were developed to supplement the existing information. These questions were posed to CIOs using either email or interviews by telephone or in-person, as was convenient to the administrators. The researcher communicated with the CIOs according to the established interview protocol. The Assistant Vice Chancellor for Information Technology identified the CIOs.

The initial research findings represented multiple perspectives, which lent itself to a case study approach to the overall research design. Yin (1984) suggests the application of the case study approach "to investigate a contemporary phenomenon with a real-life context; when the

boundaries between phenomenon and the context are not clearly evident; and in which multiple sources of evidence are used." This study combined in-person, telephone and email interviews with document analysis to identify recurring themes and variables that typify the institutional planning process. The aim of this study was to determine the similarity of the institutional variables and processes to the university system planning guidelines. Guiding questions and models identified in the literature were used to develop lenses for analyzing the documents and interview transcripts. Chapter three details the methodology used in the interview process as well as the specifics of the case study approach.

It was hoped that the emerging attributes of institutional planning contributed to the process of aligning institutional plans with those at the system level. This study attempted to determine whether comprehensive institutional planning models exist in support of sustainable technology planning at the system as well as the institutional level. The analyses of institutional reports and planning documents from the university system institutions offered the system office an opportunity to resolve the issues involving the alignment of IIT planning between institutions and the university system. In order to discuss the road ahead for technology planning in the USG, it is important to review the processes serving as the foundation for current efforts.

Importance of the study

Planning activities are typically tailored to the institutional environment and designed to produce the institutional strategic plan. The outcomes (or results) are expected to reflect the specific academic, organization and political imperatives. On many university campuses, a committee of faculty, staff, and administrators (sometimes student government representatives are included) undertakes campus-planning activities. The composition of the committee ensures

that the multiple institutional constituencies are represented to provide input to the planning activities and to harness issues related to the mission of the institution. The ultimate outcome of campus planning is an institutional strategic plan that includes goals and objectives that are designed to advance the institutional mission. For example, planning the physical layout of the campus requires the campus physical master plans are designed with the mission of the institution in mind. The same is true in the case of information and instructional technology (IIT) planning. Institutional imperatives are central to the design of the institutional IIT plan. When institutions are a part of a system of institutions, there is an expectation from the governing board of the system that planning activities (the strategic plans and the campus master plans) parallel the vision and the mission for the system while retaining unique aspects of the mission of the institution.

From discussions with the Assistant Vice Chancellor for Information Technology, the university system will benefit from a comparative analysis of information and instructional technology planning. The individual and collective benefits include the resolution of planning and alignment questions that exist at each level, institutional and system. Each institution type will be distinguished by the inclusion of the elements of IIT strategic planning suggested by the USG and other factors that indicate how closely the institution is aligned with the university system. Universities, colleges and the USG will benefit from the results of this type of IIT planning assessment and analysis derived from comparison to national technology planning patterns. Proven practices will be sought from within the University System of Georgia and may aid in the development of benchmarks to guide progress in planning at institutional levels.

Chapter summary

University systems struggle to provide tactical governance to member institutions through a carefully crafted set of guiding principles. With unique growth rates and missions, institutions are challenged to conform to centralized guidelines that support advancement at a collective pace. In this case, it is the centralized management of technology planning. This study investigates the status and the nature of existing IIT strategic planning in the University System of Georgia through a careful analysis of strategic plans and interviews supported by a comprehensive literature review. In Chapter 2, the literature review provides a developmental array of the issues contributing to ongoing discussions on IIT strategic planning. Chapter three details the research design, guiding questions and the general methodology applied to the study. Chapter four presents the results of the study and chapter five applies the findings to its real context.

CHAPTER 2

REVIEW OF RELATED LITERATURE

Institutions of higher education are comprised of various corporate, socio-cultural, academic, political, financial, and physical dimensions. Each of these, and other factors, affect institutional goals, plans, activities, and outcomes. Increasingly, institutional objectives and campus populations are in competition for priority-status and resources. The convergence of competing forces and priorities in higher education, along with the growing call for resource accountability and outcomes, has heightened the need for strategic planning within universities and across systems of higher education. In no area is the need for planning greater than in the realm of technology.

Planning should recognize the complexity and unique mission of each of its member institutions. Consequently, the IIT strategic planning process at the campus level should reflect unique environmental activities and outcomes. However, public reporting of institutional performance is often based on data driven institutional comparisons, whether those comparisons are valid or not, even within university systems (Gaither, Nedwek and Neal, 1994). Coordinating IIT strategic planning through the centralized governance structure of a university system requires progressive or incremental alignment. In order to inform and propel the IIT strategic planning process toward alignment, McCredie (2002) offers the following advice to institutions:

- Set a general direction and broad objectives rather than detailed action plans;
- Accept the cyclic nature of the strategy formulation process;
- Focus on the major challenges;
- Do not concentrate on predicting specific technological outcomes;

- Engage a wide range of staff and constituents in the process;
- Get professional facilitation, but never outsource the real work;
- Move ahead even if your parent organization has no strategic plan or process;
- Use storytelling as an important communication tool; and
- Stay the course.

Organizational strategic planning is a process designed to align an organization with the needs of its clients (Dowie, 2002). In academia, strategic planning improves decision-making, responsiveness and overall performance (Norris, 1997). The comprehensive process of institutional strategic planning is comprised of numerous elements representative of the complex interwoven processes that typify normative functions of institutions. Chan (1996) reports that the Pennsylvania State University's Office of Computer and information Systems conducted a benchmark study of five research universities in 1995, regarding information technology resource management and support. The study revealed very little formal institution-wide planning for information technology. The study also showed that existing strategic planning processes generally did not adapt to critical information technology issues.

IIT strategic planning has emerged as specialized type of planning to provide information to the overall campus strategic planning process. Other types of informative planning include facilities planning, the campus master plan (a comprehensive facilities plan), financial planning and institutional advancement (or development) planning that describes the plan for enhancing planned giving. The literature presented in this chapter provides specific supporting literature on the emergence of IIT strategic planning as a separate process from the comprehensive institutional strategic planning processes. The research presented in this chapter is organized to reflect topical (or thematic) patterns of emergence.

Technology planning must address the need for infrastructure (i.e. hardware, software, and technical connectivity), instructional technology applications, along with an increasing reliance on administrative information technologies. Each is dependent on the other, and decisions in one area may have an immediate and lasting impact in the other areas. Therefore, IIT strategic planning has emerged from the need to incorporate elements of planning that address each related area in an integrated fashion. While the researcher attempts to discus IIT planning as a separate topic, early research positions IIT planning as a part of several other discussions. The major research prongs that have incorporated technology planning and specifically IIT planning have been instructional technology, information technology, and technology transformation through strategic planning.

While the literature on strategic planning overall may provide some direction for technology planning, little has been written about the specific decisions and models that paved the way for instructional and information technology as a combined form of planning. The research literature and the activities of key players nationally in the IIT arena are summarized below. The chapter is divided into the following sections:

1. The emergence of instructional technology – early planning for information and instructional technology developed in the K-12 arena to parallel the development of the library as a major electronic media source for elementary, middle and high schools. The North Central Regional Technology Education Consortium (NCRTEC) appeared in the forefront of planning for the growth of electronic media.
2. Distance learning instructional tools – new technologies have enabled instruction to venture outside of the physical walls of the classroom. Research

in the area of distance learning technologies has continued to advance at steady pace.

3. Research on campus computing and IT services – in 1990, Kenneth Green surveyed colleges and universities on a wide array of information technology issues. The 2000 Campus Computing Survey revealed that many participating institutions did not have a strategic plan for comprehensive IT components. This was a significant finding with important implications for information and instructional technology services in higher education.

4. Transforming Higher Education – research on transformation and change are characteristic of the study of technology in higher education. EDUCAUSE is the leading organization promoting research on all dimensions of campus IT functions. The organization was formed in 1998 from a merger of two professional associations (Educom and CAUSE). The mission of EDUCAUSE is to advance higher education by promoting the intelligent use of information technology.

NCRTEC Technology Planning Task Force – The Emergence of Instructional Technology

Early research on distance learning emerged from the need to enhance academic computing capabilities from mainframes systems to the more agile desktop systems for classrooms. In 1995, five Regional Technology Education Consortia (the Northwest Educational Technology Consortium, the Pacific and Southwest Regional Technology in Education Consortium, the South Central Regional Technology in Education Consortium, the Southeast and Islands Regional Technology in Education Consortium and NetTech) joined forces with the

North Central Regional Technology in Education Consortium (NCRTEC) to form a Technology Planning Task Force. This aggregate group suggested that the process of technology planning (i.e. development, implementation, and evaluation) is an essential component of educational reform. Based on ongoing research, in 2002 NCRTEC formulated several tactical characterizations of technology planning that are applicable to this discussion:

1. Technology planning is an ongoing process that translates organizational, public policy and technology needs into current actions.

2. Planning allows educational organizations to take advantage of technological innovations while minimizing the negative impact of unexpected challenges.

3. Planning provides a road map for the implementation of technology and can result in more efficient expenditure of limited resources and an improvement in student achievement.

4. A technology plan serves as a bridge between established standards and classroom practice. It articulates, organizes and integrates the content and processes of education in a particular discipline with appropriate technologies. It facilitates multiple levels of policy and curriculum decision making, especially in school districts, schools, and educational organizations that allow for supportive resource allocations.

5. Technology plans reflect the policy and educational environment of a state, school district or a higher educational system (NCRTEC, 2002).

Two main goals guided the initial effort (1995) of the NCRTEC Planning Task Force. The first goal was "to consider common elements in planning documents and …" the second was "to generate a set of guiding questions that would help technology planners as they consider the most significant issues related to technology planning". The on-going research of the NCRTEC Planning Task Force has supported the premise that a well-designed technology plan is a

dynamic tool providing guidance for institutional innovation. The NCRTEC Task Force emphasized the role of technology plans as opportunities for dialogue and professional development that encourage internal decision-making. The Task Force developed a document entitled "Guiding Questions for Technology Planning" to assist in propelling the planning process forward "by helping the planning team develop and refine their technology plan." This NCRTEC document (2002) suggests that the following questions should be addressed in the implementation of the institutional IIT plan:

1. What is the timeline for meeting the goals of your plan?
2. Who is responsible for achieving milestones on the timelines?
3. What professional development strategies will you use?
4. How will you provide time for ongoing staff development, including time to practice and learn new technologies?
5. What is your plan for networking, acquiring hardware and software, and updating the facility?
6. How will you deal with the rapid changes in technology?
7. What funding is available currently?
8. How will funding be provided over the life of the plan?
9. How will you coordinate and leverage a variety of funding resources to support your plan?
10. How will you deal with contingencies such as changes in leadership and changes in budget?
11. How will you determine which program area, discipline, or staff will receive highest priorities for receiving technologies?

12. Who (or what group) will be responsible for implementing the technology plan?
13. What incentives and sanctions will you implement to ensure that everyone achieves a high level of technological proficiency?
14. How will you ensure equity of access to technology and engaged learning experiences for all students?
15. How will your instructional use of technology address district, state, and federal mandates including curriculum, special needs, minority populations, and equity issues?
16. What new policies are needed to support implementation of your plan?
17. Technology implementation is a continuous process that adapts to the organization's changing circumstances and includes ongoing evaluation. Effective evaluation will force planners to rethink and adapt objectives, priorities, and strategies as implementation proceeds.

The research by NCRTEC (2002) found that continuous evaluation facilitates dynamic changes if aspects of the plan are not deemed effective or appropriate. The implementation of a technology plan can be evaluated in many ways. Simple observations, both negative and positive, can be made by users of the technology and are often the most helpful. Interviews and informal meetings with both instructors and student users tease out the experiences that both groups have from using technology. NCRTEC found that sometimes, even a simple written survey could assist in measuring the extent to which the plan has met its original objectives and expected outcomes. The NCRTEC Task Force proposed the following questions for planning the evaluation of the implementation of the technology plan:

1. How and when will you evaluate the impact your technology plan implementation has on student performance?

2. Who will be responsible for collecting ongoing data to assess the effectiveness of the plan and its implementation?
3. What windows of opportunity exist for reviewing the technology plan? (For example, the plan might be reviewed during curriculum review cycles.)
4. How will accountability for implementation be assessed?
5. How will you assess the level of technological proficiency gained by students, teachers, and staff?
6. How will you use technology to evaluate teaching and learning?
7. What is the key indicator of success for each component of the plan?
8. How will you analyze the effectiveness of disbursement decisions in light of implementation priorities?
9. How will you analyze implementation decisions to accommodate for changes as a result of new information and technologies?
10. What organizational mechanism will you create that allows changes in the implementation of the technology plan and in the plan itself?

The Task Force suggested that new planning teams should first review and then evaluate technology planning models, technology planning guides, and sample technology plans. After the team has completed this task, they should begin to work on designing a planning process or model unique to their institution. Models can be constructed from proven or best practices derived from research on longitudinal processes. According to the NCRTEC Task Force, any model reflecting good and sound planning methodology ought to be a combination of assessment, strategic planning and environmental analysis in addition to the effective elements of

technology planning. The Task force issued a suggested set of guiding questions for each element of the model:

1. Creating a Vision: What is the institution's vision for learning?
2. Designing for Learning: How will you use technology to support the campus vision for learning?
3. Designing the Infrastructure: How will you develop a supportive infrastructure?
4. Environmental Context of Planning: Do you understand the context of your technology planning process?
5. Garnering Public Support: How will you garner public support for your plan?
6. Implementing a Plan: How will you implement your plan?
7. Ongoing Evaluation: How will you evaluate the implementation of your technology plan?

NCRTEC derived a model to facilitate k-12 instructional technology planning based on the findings from their research. Figure 1 below represents the components of the model and their inter-relation through process and data flow.

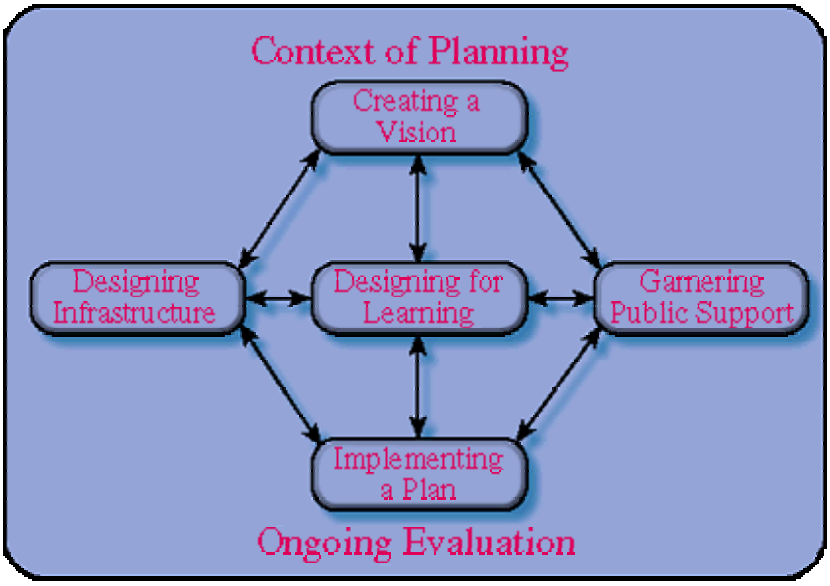


Figure 1. NCRTEC Model for Technology Planning

Source: North Central Regional Technology in Education Consortium, 2002.

While the K-12 arena is substantially more standardized than higher education, institutions of higher education are vastly more complex, dynamic, and sometimes conflicting enterprises. However, the basic elements of technology planning in the K-12 arena can be used to guide the discussion of process and design for higher education. For example, the NCRTEC model guiding instructional technology planning for K-12 includes the elements of vision, garnering support, designing the infrastructure, designing the plan for learning, and implementing the plan within a unique environment. These basic elements can guide the discussion on instructional technology planning at colleges and universities. A technology planning model created for one institution will not necessarily meet the comprehensive planning needs of every institution.

Distance Learning and Instructional Technology in Higher Education

Higher education has benefited from the instructional technology advancements in the K-12 arena. The advent of the internet provided the perfect medium for the development of academic courseware (BlackBoard, WebCt) beyond delivering instruction via email. The utility of the Internet and wireless communication devices has added conveniences to minimize time and place restrictions to learning. Teaching, research and learning has also been affected technological innovation. With readily accessible computer technology, faculty and students now communicate anytime and anywhere. However, most faculty members use technology to supplement instruction by expanding the options for applying teaching and learning methodologies (Green, 1999). During the past decade, the World Wide Web (www) has clearly surpassed other educational technologies as the most used vehicle to deliver and distribute course materials, syllabi, lecture notes, assignments, calendars and other course related materials. Courses are now offered across large geographical areas, to students who live in remote or inaccessible locations, and to students whose physical movement is impaired. This distributed environment facilitates home schooling, learning at the office, and synchronous and asynchronous learning.

The ongoing technological revolution has provided exciting alternatives to the more traditional approaches to the curriculum. Gaff and Ratcliff (1996) identified technology as a major social force in shaping the curriculum because of the growing examples of its utility in the curriculum. Gaff and Ratcliff (1996) characterized technology as an assistive tool to instruction in higher education with new technologies leading revisionist analyses of the curriculum planning processes. As campus discussions continue to formulate around the utility of technology to the curriculum, institutions are more aware of the impact of instructional

technologies. Technology has the capacity to transform the delivery of instruction as well as the curriculum, but institutions struggle with balancing the dynamic needs of the institution with the need to advance technologically.

The three questions below characterize ongoing concerns for growth and development in distance instructional technologies:

- How do we address the changing needs of continuing education or lifelong learning? (Ward, 1999)
- How do we deliver self-paced residential and distance courses to meet the current and prospective students' demand for capstone degrees, certificates and the enlarged conception of the Master's degree? (Ward, 1999)
- How do we measure the effectiveness of technological applications in higher education? (Selwyn, 2000).

Research suggests that over time the implementation of an effective planning process is "the road" that leads to answer these and other questions. The ultimate challenge is to achieve a balance between positioning and investing in technological applications and in measuring impact, growth and overall improvement or gains. Turner (2001) recognizes the co-dependent nature of technology assessment and planning. He suggested that IIT planning (and indeed all planning activities) should be continually informed by assessment processes that are an integral and ongoing part of strategic panning at institutions of higher education.

While the focus of NCRTEC's research was primarily toward technology planning in k-12 educational systems, the characteristics and nature of technology requires consideration in even larger, post-secondary educational settings (Below, Morrisey and Acomb, 1987). As an example of an interrelated outcome, the rise of educational media technology in the k-12 arena

has encouraged higher education to provide increasing instruction in teacher education and education technology degree programs to prepare teachers to assume roles of leadership in instructional technology. Yet, because institutions of higher education are comprised of elements from the corporate sector (management), academic sector (instruction) and the political sector (governance), a technology plan by itself is not enough to ensure change (Moore, 2001). There must be widespread acceptance and adoption of the technology plan for effective, implementation driven change (Below, Morrisey and Acomb, 1987).

Altbach, Berdahl and Gumport (1998) offered a few examples of the impact of technology driven change:

- Affects how knowledge is obtained, classified, utilized, and represented – knowledge may be delivered interactively, graphically and textually within the classroom setting, on the web or via distance delivery mechanisms.

- Enables a shift in the focus and orientation of academic courses – for example, online resources may be retrieved during the class session to expand the content and depth of discovery.

- Facilitates a shift from passive to active to engaged learning – the incorporation of online resources and technological innovation will expand the content of courses and motivate interest and discussion.

- Alters the geography of education – technology reduces the constraints of time and place and enables anytime and anywhere learning. Historically, institutions were physically constrained to the location of classrooms in physical structures. Technology enables instruction to students who are not physically located within campus buildings.

- Enables the introduction of new providers of instructional resources – the number of for-profit educational corporations have mushroomed in the past five years. Corporations have

realized the advantage of providing educational advancement opportunities to employees through the services of for-profit companies. For-profit, educational services provide instruction tailored to the needs of the employees and the company. Tailored instruction offsets the traditional provision of a general education curriculum and the traditionally structured curriculum offered at institutions of higher education.

Adding to the complexity in IIT planning and implementation, controversy exists over the pedagogical benefits of technology-enabled learning systems. Faculty members are more likely to embrace new technologies if it is clear that these technologies are likely to improve instruction in their discipline, if they directly add some prestige in their discipline or peer communities, or if they increase a sense of personal success. It is clear that higher education is still in the early stages of learning to plan and use technology to improve learning (Kobulnicky, 1999). While research on learning assessments is improving, it is difficult to find conclusive evidence on strong correlations between the use of technology and success in learning (Kobulnicky, 1999). These assertions by Kobulnicky articulate the difficult relationship between assessing improvement and selecting accurate indicators of success in the IIT planning process. The increasing number of colleges and students engaged in distance education illustrates the importance of planning for instructional technology. The National Educational Technology Plan (2004) estimates that 90 percent of four-year public institutions and more than half of four-year private institutions offer some form of online education. The U. S. Secretary of Education, Roderick Paige states, “Education is the only business still debating the usefulness of technology. Schools remain unchanged for the most part, despite numerous reforms and increased investments in computers and networks." The debate must now revolve around technology planning.

Information Technology – The Annual Campus Computing Survey

From an extensive review of the literature, the researcher found that the term "information technology" was most often defined in terms of its function and utility. Information technology facilitates the communication of data and information via rapidly evolving assortment of technological tools. The rate of change of technology rendered definitions obsolete almost immediately after they were issued. However, more widely acceptable definitions refer to the uses and application of information technology. In 1990, the Campus Computing Project emerged among the first comprehensive research projects on the use of information technology in higher education. The project's national studies drew on qualitative and quantitative data to help inform faculty, campus officials, and others interested in a wide array of information technology issues that affect American colleges and universities. Annually, the survey receives support and sponsorship from leading technology corporations such as Blackboard, Collegis, eCollege.com, EDUCAUSE, Harcourt College Publishers, Macromedia, National Education Association, PeopleSoft, SallieMae, and WebCt, to name only a few. The annual survey has grown to be a leading contributor to national and international discussions on information technology and its impact in higher education. Kenneth Green is the Director and founder of the survey and summaries of the results from annual surveys of more than 600 institutions can be found at The Campus Computing Project's web site http://www.campuscomputing.net. The annual survey now includes issues of campus planning, as well as policies and their impact on teaching, learning and scholarship.

According to Green (1999), information technology is the "aggregated presence of technologies in virtually all facets of daily life," including the daily life at an institution of higher

education. The 1998 *Campus Computing Survey* (CCS) showed the pervasive influence of technology in higher education.

- Forty percent of college courses utilized email.
- Thirty percent of all college courses drew on web-based content.
- Forty percent of all colleges had either a computer literacy/competency requirement.
- Sixty percent of public 4-year institutions had a mandatory technology fee.
- Seventy-five percent of 2-year and 4-year colleges had Offices of Instructional Development.

In 1999, Green advanced the idea that technology is a function as well as a resource. The Campus Computing Project found that the term "function" refers to that technology which enables greater flexibility and utility of instructional tools as well as access to those tools. The 2000 CCS identified IT planning as an issue. Two-thirds (65.8%) of the campus officials participating in the survey reported that their institutions had a strategic plan for information technology. A higher percentage (68%) of public universities reported having a plan compared to private universities (61%). Green (2000) reported that he was impressed, however, that so many institutions appeared to have strategic plans for information technology. However, when asked additional questions about these plans, a number of key components were missing. Green found that many institutions did not have plans for e-commerce, distance education, campus portal services, or financing IT, core components of "a real" IT plan. The 2000 survey revealed less than one-tenth of the participating institutions (7.3%) had an e-commerce plan, only one-twelfth (13.2%) had a campus portal services plan, and less than one-third (29.3%) had a distance education plan.

Universities or state systems participating in the CCS may include, for a fee, specific questions to gather additional information from member institutions. In 2003, the USG participated in the annual CCS and contributed questions that were specific to technology planning activities in the thirty-four institutions. USG institutions were asked to respond "yes" or "no" indicating:

1. Whether their institution had an IT Strategic plan?
2. Whether their institution's IT Strategic plan was integrated with the institution's Strategic Plan?
3. Whether their institution's IT Strategic plan was integrated with the Budgeting and Financial planning process?
4. Whether their institution's IT Strategic plan was integrated with the Facilities planning process?
5. Whether their institution's IT Strategic plan was integrated with the USG Technology Strategic Plan?

The data derived from these additional questions posed to institutions in the University System of Georgia are important to this study and are discussed in detail in chapter four. Neither Green's 2000 survey nor the USG questions posed questions about the IT planning process.

According to Hopey and Harvey-Morgan (1995), a good technology planning process can be summarized in six or seven basic principles. They suggested an inquiry-based technology planning process centered in part on a model developed by Shirley (1988). Hopey and Harvey Morgan (1995) suggested that the strategic technology planning process at institutions of higher education should:

1. Be an organized and continuous process, use a simple straightforward planning model, and result in a document that improves how technology is used for instruction, management, assessment, and communications.
2. Take into account the mission and philosophy of the organization and be "owned" by that organization, its administrators, and instructors. While external assistance such as that provided by a consultant can bring a broad perspective and knowledgeable opinions to the technology planning process, the process must have the commitment of decision makers and staff of the institution.
3. Be broad but realistic in scope, with economical and technically feasible solutions.
4. Involve all the stakeholders--including administrators, instructors, staff members, students, parents, community leaders, and technology experts--with experience in education.
5. Identify the strengths, weaknesses, opportunities and threats (SWOT analysis) of the organization and how each element will affect the implementation of technology.
6. Formalize the procedures and methods for making technology decisions, including the setting of priorities and the purchase, evaluation, upgrading, and use of technology. This is often called “closing the loop” by continuing the planning process beyond the implementation stage.
7. Be driven by practical and realistically feasible educational goals and objectives rather than by technological developments.

While the issues of planning are critical components to any IIT plan, institutions of higher education are struggling with the creation of guidelines to perpetuate effective planning

processes to gain campus buy-in. Institutions acquire tremendous insight on issues and outcomes of IIT planning from peer and aspirational institutions, university systems, other state agencies, and technology corporations. Beaumaster (1999) explored the problems surrounding information technology implementation and how local government administrators perceived planning. She found that the most problematic IT planning issues facing local government executives were rapidly changing technology, individual IT expertise, a lack of a formal strategic plan, lack of a planning model, and interdepartmental coordination. According to the findings, public administrators felt that the most problematic IT procurement issues facing local government executives was a lack of a formal strategic plan. The most problematic IT implementation issues facing local government executives were training, rapidly changing technology, resistance to change, and individual IT expertise.

Beaumaster's (1999) research suggested that the identification of current issues affecting technology in institutional environments assists in anticipating future issues of technology in higher education. Higher education and other technology-dependent agencies are challenged to measure the effect and impact of technology. Therefore, very little attention has been focused on determining the forms of technology needed to maintain the institutional competitive advantage for providing student services.

EDUCAUSE – Transformation, Planning, Implementation and Alignment

In the absence of peer-reviewed journals dedicated to the study of IIT strategic planning, the leading provider of centralized research on IIT issues has been a professional association named EDUCAUSE (http://www.educause.edu). This nonprofit organization's mission is to advance higher education by promoting the intelligent use of information technology. The

association hosts conferences throughout the year on topics that include security, technology policy, leadership, and administrative technology. The association promotes professional development through area conferences, institutes, and seminars for IT professionals to network and share research and practices. Membership is open to institutions of higher education, corporations serving the higher education information technology market, and other related associations and organizations. Resources include professional development activities; print and electronic publications, including books, monographs, and the magazines EDUCAUSE Quarterly and EDUCAUSE Review; strategic policy advocacy; teaching and learning initiatives; applied research; special interest collaborative communities; awards for leadership and exemplary practices; and extensive online information services. The current membership comprises more than 1,900 colleges, universities, and educational organizations, including 200 corporations with 15,000 active members. The major initiatives of this association include:

• ECAR, the EDUCAUSE Center for Applied Research, provides subscribers with timely research and analysis to assist higher education leaders in making better decisions about IT.

• Net@EDU promotes the development of advanced networking in higher education through member activities that span the spectrum of academic networking, from administration of campus networks to local, state, regional, national, and international networking projects.

• NLII, the National Learning Infrastructure Initiative, supports new collegiate learning environments that use IT to improve the quality of teaching and learning, contain or reduce rising costs, and provide greater access to higher education.

• Core Data Service is a Web-based interactive database, based on an annual survey, that compares institutional IT environments and practices to help benchmark, plan for, and make decisions about IT on campus.

• Networking Initiatives are focused efforts to define and develop emerging network technologies.

• Policy Initiatives are the association's legislative and regulatory tracking and advocacy activities involving federal policies that impact IT in higher education.

• Security Initiatives are resources on computer and network security for the higher education community.

• .edu Administration covers policies and processes for managing the .edu Internet domain, which EDUCAUSE administers under contract with the U.S. Department of Commerce.

EDUCAUSE serves as a repository of information on technology related topics such as IIT strategic planning. Many of the authors cited in this study are published in the EDUCAUSE Quarterly, CAUSE/EFFECT or through collaborative efforts in other journals. The most noted contribution by this association is the publication of the results from its annual Current Issues Survey. Beginning in 2000, the EDUCAUSE Current Issues Committee distributes an annual survey to CIOs of member institutions with questions on the most pressing IT challenges facing higher education. Nearly 600 institutions typically respond to the survey. From a list of approximately 30 potential issues, IT leaders are asked identify the top ten for each of four different categories:

1. Most important for your campus to resolve for its strategic success;

2. Potential to become much more significant in the coming year;

3. Spending most of your time as an IT leader addressing;

4. Costing the most human and/or financial resources.

Results of the survey are reported annually in the summer issue of EDUCAUSE Quarterly. The report includes aggregate findings and emerging trends for all responding institutions; demographic comparisons by Carnegie Class, enrollment size, and public/private governance; and, definitions, analyses, and risk assessment questions for the top ten strategic issues. The 2003 Current Issues Survey conducted by EDUCAUSE (Crawford, Rudy, et al, 2003) captured the most pressing campus IT challenges. Participants were asked to select up to five issues from a list of 30 in response to each of four questions. The four categories listed above were used to create questions which would be directed to participating institutions.

Information technology strategic planning was in the top ten for three of the four questions along with IT funding challenges, and Web services/Web-based systems. Specifically, IT Strategic Planning ranked sixth for Question 1, compared to fourth in 2002. For Question 2, IT Strategic Planning fell one notch to second from first in 2002, and ranked below IT Funding Challenges, a critical aspect of realistic planning. For Question 3, IT Strategic Planning ranked tenth, down from ninth in 2002. Clearly, remaining in the top ten signals the importance and critical need of IT strategic planning. According to this survey, rankings for issues of technology security management and funding have risen and in many cases eclipsed technology planning. Without funding, planning cannot move toward implementation. The issue of competing priorities for funding emerged in the recent research findings.

According to the 2003 EDUCAUSE Current Issues Survey, IT Strategic Planning was one of the areas that IT leaders spent most of their time addressing. The data were analyzed by

institution size, Carnegie Classification, and control (public or private). IT Strategic Planning ranked in the top ten for Questions 1 and 3 for all institutions as well as for Doctoral Research Institutions. Doctoral Research Institutions reported IT funding and infrastructure issues dominated the top ten responses to Questions 2 and 4. The authors predicted in 2003 that IT Strategic Planning would remain a top 10 issue in 2004. IT Funding was predicted to lead the list of future issues, closely followed by Administrative/ERP/Information systems, Security and Identity Management, Maintaining, Upgrading Network and IT Infrastructure, Faculty Development, Support and Training, and IT Strategic Planning. Envisioning effective institutional IIT strategic planning calls for consideration of all variables that supply information (such as enrollment projections) to accurately predict the number of future users of technology. The institutional environment should also be considered a contributing factor. As well, graduation rates can be viewed as outcomes or outputs affecting enrollment. Each of these interrelated factors deserves specific considerations in the IIT planning schema.

The 2004 Current Issues Survey authored by Spicer, DeBlois and the EDUCAUSE Current Issues Committee, identified strategic planning for IT as the second most time consuming issue. Data from the 2003 survey previously listed IT strategic planning as sixth. In 2004, IT strategic planning rose to fourth and has the potential of becoming one of the most significant issues facing IT leaders as a critical institutional strategic success-factor. The authors suggested the reason for this anticipated rise is likely the result of better alignment of IT activities with the institution's priorities. Alignment with the institutional priorities is often recognized as a critical factor in the funding of institutional projects. The authors further state that issues related to IT strategic planning identified by the survey include IT funding and governance, organization, and leadership for IT. With IT funding as an ongoing critical concern,

the authors noted that IT strategic planning has become more important because of the need to align IT planning with the budget process (Spicer, DeBlois, et al, 2004).

Governance, organization and leadership for IT appeared in the top ten list of the 2004 Current Issues Survey, indicating that CIOs are spending increasing amounts of time on legislative compliance, policy development, and change management (guided transformation). The change management process seeks to improve the efficiency of the organizational environment through effective planning, implementation of outcomes, and alignment of resources to address strategic and operational needs. The results of the survey suggested questions institutions should consider about the leadership role of the CIO, including that of change agent.

In line with these observations from the EDUCAUSE 2004 Current Issues Survey (Spicer, DeBlois, et al, 2004), as early as 1995, Dolence and Norris (1995) stated that technology transformation within institutions consists of more than increasing the use of technology. The number of issues identified by the 2004 Current Issues Survey supports the assertion that institutional transformation through technological advancement is the result of complex synergistic processes. The authors suggested realigning structures that require "assessment of how the needs on one's stakeholders, clients, customers, and beneficiaries will change" in this technology-driven age. The authors also advised that transformation-guided planning require adjustment of existing processes and initiatives toward transformative ends. The authors concluded it is necessary to realign the needs of the "Information Age" to the institutional priorities to avoid superimposing technology on traditional processes.

Altbach, Berdahl and Gumport (1998) agreed with Dolence and Norris' (1995) characterization that technology is a transformational tool. However, actual transformational

timelines may lag behind predictions from institutional assessments. For example, Altbach, Berdahl and Gumport (1995) found a cautious adoption of technological solutions for curricular and instructional improvement. With the exception of the digitization of written documents to solve physical storage problems, the growth of academic disciplines spurred few innovative solutions incorporating technology, at the time of their study. The creation of digital document libraries and the offering of documents on the web has been one of the popular and most broad based applications of instructional technology in higher education. Altbach, Berdahl and Gumport (1998) suggested narrowly tailoring institutional priorities to manage the financial costs associated with transformation. The issue of cost is a recurring theme throughout the results of EDUCAUSE Current Issues Surveys.

Below, Morrisey and Acomb (1987) found that, "regardless of a school's size or experience, two essential ingredients are necessary to make planning successful. First, all administrators and instructors must understand their roles and tasks. Second, there must be an organizational commitment to both the technology plan and the technology planning process." The authors suggested that a commitment to the plan and the planning process could result in a successful technology plan to accomplish the following:

1. Promote campus buy in – Effective plans include support structures that foster and exhibit shared governance. An effective planning process should produce new governing ideas resulting from the tripartite leadership approach (Peter Senge, et al, 1994). This will promote broad based support across the campus.
2. Long-term financial and senior administrative leadership support – Successful plans should cultivate successful implementation cycles. Presidential support for the planning process requires addressing issues that are important to the president

and that convey his or her good stewardship of institutional resources (Moore, 2001).

3. Envision change creation – Effective leadership throughout the planning process means taking genuine responsibility for leading change, effectively planning for desired changes, and developing and implementing a change approach that capably transitions people, processes and circumstances from existing realities to a shared vision of the future (Lick and Kaufman, 2001).

4. Success – Ideally, effective plans that incorporate the elements above have the best chance for success in accomplishing the goals of the planning process. Of course, success is relative. Simply stated, if the goals and objectives of the planning process are met and the plan accepted, supported financially and moved through implementation, then a certain measure of success has been achieved.

Given the important role of technology in higher education, institutions are challenged to address issues of longevity and change through new technologies to support the future of residential undergraduate education. Farrington (in Katz, 1999), encouraged change for the assurance of survival. He also called for the examination of the future of technological tools in higher education to support instruction, convenient (on demand) access to educational opportunities and the impact of new multimedia tools. Graves (in Katz, 1999) suggested that technology is a strategic asset to aid in increasing the returns on technology investments. He provided five principles for optimizing investments in information technology and presented a life cycle model for the tools of information technology. Katz (1999) suggested a vision, developing the capacity for change, engaging the faculty, managing information technology as a strategic campus asset and focusing on the assessment of student outcomes. Katz (1999) framed

the discussion by offering a broad and encompassing vision for managing technology that many institutions could adopt as preparations ensue for the role of technology in the future of the institution. University systems, as well, should carefully consider the importance of consistency in the adoption of IIT management strategies and processes to advance structured centralized IIT governance.

Chapter Summary

Discussions on information and instructional technology can be quite extensive because of the multifaceted and ambiguous nature of term "technology". Consequently, discussions often require continual clarification and definition of the specific type. The interrelated nature of the issues involved in IIT planning is conveyed in the cross-referencing of authors and issues in each of the topical areas addressed in this chapter: Information Technology, Instructional Technologies, Distance Learning and, Transformation, Planning, Implementation and Alignment. It seems fair to suggest that definitions of the term "technology" are wide in scope, sometimes basic, comprehensive, interwoven with many campus issues, yet often very specific in expected outcomes. When campus technology is separated into the specific aspects of information, instruction and strategic planning, the broader discussion becomes more focused, with specific anticipated results. The customarily fluid application of the tools of technology implores frequent alignment with core guiding principles and institutional values to support planned growth and institutional goals. The findings of this literature review draws attention to the increasing reliance on technology. The level of integration in departmental instructional systems and administrative information systems requires IIT planning in higher education to go beyond technical infrastructure development.

This literature review examines the foundation and emergence of planning as a framework for examining the commonalities that exist in strategic information and instructional technology planning in the thirty-four member University System of Georgia. The outcome of this study is to inform ongoing alignment desired by the USG.

Definition of terms encountered in this study

In this study, specific terms and acronyms define processes and organizations that are important to research on the topic of IIT planning. The following terms and acronyms are defined for clarity.

Assessment – Assessment refers to an ongoing (formative) process that requires the incorporation of measures based on certain standards toward a goal of improvement (Morris, 2002).

Information Technology (IT) – refers to the function and convenience to communicate information and data via rapidly evolving collection of technological tools. More widely acceptable definitions refer to the uses and application of information technology in higher education.

IT Assessment – An IT assessment is a diagnosis of how well an institution is doing in assembling the appropriate amount of IT funding to obtain the most benefit in return. An IT assessment takes the pulse of the health of the IT environment and is an anticipatory mechanism to determine what should be changed to enhance the institution's interaction with information technology. IT assessments serve as a comparative measure and assists administrators in obtaining consensus on the issues of measuring quality in an IT environment. The focus of an IT

assessment is on effectiveness, assessing the quality and quantity of technology resources, the IT department's responsiveness and policies that promote usefulness (Fleit, 1997).

Mainframe systems – these are a complex integration of hardware components using software to run programs that accomplish routine tasks for an entire organization or institution. This centralized computer processing concept was extremely popular until the advent of desktop computers in the early 1970s.

Planning – Planning refers to a method or scheme for achieving or doing, a goal, a design, an intention and to formulate a way to achieve or do (Webster's II, 1984). Planning is but one of the institutions' basic management functions. It is often an instrument through which leadership confronts or deals with other managerial functions such as academic program development and management, resource allocation, fund raising, evaluation of academic and administrative programs, marketing and enrollment management. There are different types of planning depending on the period and cadence as determined by the needs of the organization, rather than the changing environment (Norris and Poulton, 1999).

Strategic Planning – Strategic Planning is the activity through which one confronts the major strategic decisions facing the organization. Strategic planning is externally directed, focuses on "what" the organization should do, deals with "macro" issues, spans organizational boundaries, is a continuing process dictated by changes in the environment that occur on an irregular timeframe, deals with relatively greater levels of uncertainty, and values expert judgment (Norris and Poulton, 1991).

Technology Planning – Technology planning is a method or scheme of formulation undertaken to achieving a specific set of goals and objectives related to technology. This kind of

planning provides detailed analysis about the benefits, resources, timetable and deliverables (Chan, 1996).

The *nature of planning* refers to the processes, environment and specific activities that take place to accomplish and advance the planning process.

The *organization of planning* refers to the institutional structures that are harnessed to bring order to and systematize the planning process.

List of acronyms

IT – Information Technology

IIT – Information and Instructional Technology

RTEC – Regional Technology Education Consortium

NCRTEC – North Central regional Technology Education Consortium

SCUP – Society for College and University Planning is an association of professionals devoted to planning academic institutions.

EDUCAUSE – A national professional association dedicated to advancing higher education by promoting the intelligent use of information technology, bringing information technology professionals together, helping those who lead, manage and use information technology resources to shape strategic decisions at every level of the organization. This association exemplifies support for the IT profession through technology research and offering tools to support each member institution's unique mission.

USG – University System of Georgia consists of thirty-four public institutions of higher education governed by a state appointed Board of Regents.

BOR – Board of Regents is the governing body for the thirty-four member institutions of the University System of Georgia. Board members represent various sector of the state and are appointed for specific terms of office. The work of the BOR is supported by a staff of administrators who coordinate the functions and activities of the BOR.

ACIT – Administrative Committee on Information Technology is charged with the primary mission of serving as an advisory body to the Board of Regents on issues related to the policies and procedures affecting IT in the university system (USG website: http://www.usg.edu/acit, 2003).

CHAPTER 3

METHODOLOGY

Instructional and information technology planning is a relatively new and evolving phenomenon in higher education. Specialized forms of planning, such as IIT planning have emerged in response to the demands for efficiency and effectiveness in resource allocation. IIT strategic planning has not been a required undertaking for many institutions. Rather, it has been necessary to explain the allocation of resources, conformity to institutional guidelines and adherence to provisions in institutional annual or self-study reports. However, as institutions and university systems undertake comprehensive planning activities, questions arise relative to peer or aspirational institutional processes that may enhance current practices. Comparisons are normal, so it is important to provide data and information to respond to questions of comparative difference. Professional organizations such as EDUCAUSE suggested that campus strategic planning could benefit from examining the relative status of institutional IIT strategic planning. This chapter provides one approach taken to determine the status of IIT strategic planning in a comprehensive university system.

Research Design

The purpose of this study was to explore the status of strategic planning for information and instructional technology (IIT) in the thirty-four member University System of Georgia (USG), a major comprehensive statewide system. Critically examined were campus planning activities that shape technology planning processes. Specific aspects of institutional plans and their relationship to the strategic planning processes in the University System of Georgia were evaluated. The goal of this study was to determine the status of institutional activities associated

with information and instructional technology planning. In addition, the study investigated how IIT planning informed the strategic decision-making and policy formation activities at the institutional level and the system level. The overarching research question that guided this investigation was; what is the status of IIT planning at system institutions? Secondary questions included:

- In what ways do the institutional plans reflect the Strategic IIT Plan of the University System of Georgia?
- What are the organizational structures and processes that support institutional planning efforts?
- How were these planning processes selected and delineated?
- How closely do institutional IIT planning processes and structures align with the university system's governing strategic planning processes and structures?
- How is IIT planning assessed and reported to the university system?

The Case Study Method

The three-pronged (i.e. literature review, document analysis and interviews) approach evolving from this study pointed to a case study approach to the research methodology. Robert Yin is regarded as a foremost figure in the case study research method. Yin (1984) is often cited for defining the case study method as an empirical inquiry that investigates contemporary phenomena within its real-life context; when the boundaries between phenomena and context are not clearly evident; and in which multiple sources of evidence are used. This definition clearly applies to this study. The boundaries of technology planning and the context within which it occurs (institution and system levels) are not clearly evident and require the examination of

multiple sources of data. The flexibility and nature of the case study methodology appeal to social scientists for the examination of contemporary higher education because of the emphasis on contextual analysis for a limited number of events or conditions and their relationships (Soy, 2003).

For example, in a similar approach, Winston Trellis (1997) used Yin's case study method to conduct a study to assess aspects of the rapid acquisition of information technology at Fairfield University. He asserts that the characteristic of the case methodology uncover information that quantitative techniques often leave obscure. Soy (2003) concludes that case studies are complex because they generally involve multiple sources of data, may include multiple cases within a study and produce large amounts of data for analysis. Such is the case with this study. In addition, since few models exist, the case study method can build upon a theory, produce a new theory, dispute or challenge a theory, explain a situation, provide the basis to apply solutions to situations, to explore or to describe an object or a phenomenon. The advantages of the case study method are its applicability to true-life, contemporary human situations and its public accessibility through written reports. Soy (2003) agrees that case study results may relate directly to the common reader's everyday experience and facilitate an understanding of complex situations. Based on the complexity, multivariate data sources and time sensitive nature of IIT strategic planning activities in the USG, application of the case study method is warranted.

Research Site

The thirty-four institution research sites are located throughout the state of Georgia. The relative geographic locations in the state are presented in figure 2.

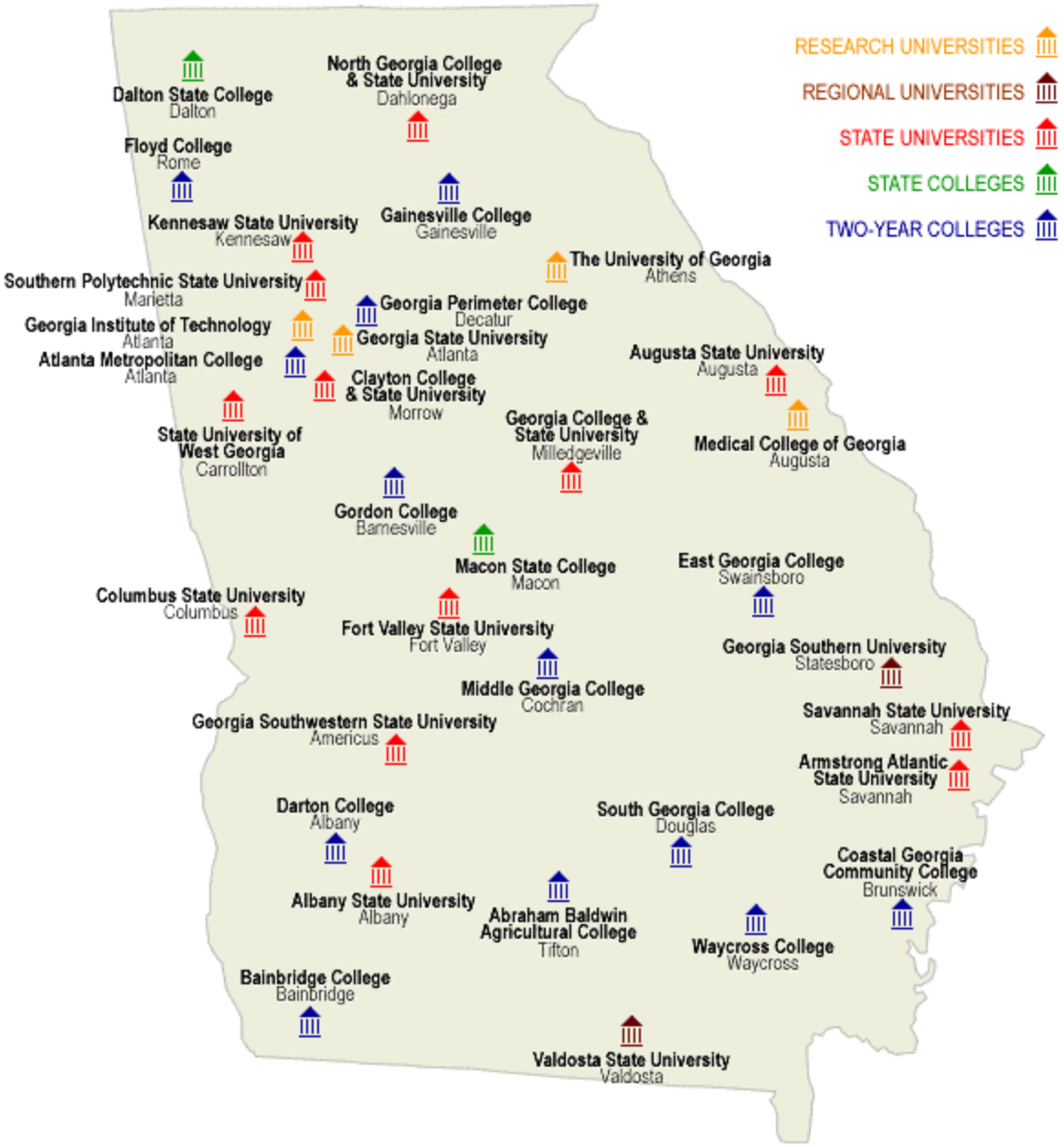


Figure 2. A Map of University System of Georgia Institutions.

Source: The University System of Georgia, 2003.

For the purposes of this research project, institutional participants were grouped using the classification assigned by the Board of Regents (e.g. Research, Regional, State University, State College and Two-Year College). The researcher classified each institution type to mask the specific USG designation to provide confidentiality. The Research institutions will be referred to as Type I; Regional institutions as Type II; State Universities as Type III; State Colleges as Type IV and Two-Year Colleges as Type V. The table below lists the institutions by their assigned classification type. Appendix A presents an alphabetized list of the institutions in the University System, their USG classification, and their assigned type for the purposes of this study.

Table 2. Classification of USG Institutions for Research Project (n=34).

Classification Type	Institution Type	Institution Name	Enrollment Ranges
I	Research University	Georgia Institute of Technology Georgia State University Medical College of Georgia The University of Georgia	2,000 – 32,000
II	Regional University	Georgia Southern University Valdosta State University	8,800 – 15,000
III	State University	Albany State University Armstrong Atlantic State University Augusta State University Clayton College and State University Columbus State University Fort Valley State University Georgia College and State University Georgia Southwestern State University Kennesaw State University North Georgia College and State University Savannah State University Southern Polytechnic State University State University of West Georgia	2,500 – 17,400
IV	State College	Dalton State College Macon State College	3,100 – 4,100

Classification Type	Institution Type	Institution Name	Enrollment Ranges
V	Two Year College	Abraham Baldwin Agricultural College Atlanta Metropolitan College Bainbridge College Coastal Georgia Community College Darton College East Georgia College Floyd College Gainesville College Georgia Perimeter College Gordon College Middle Georgia College South Georgia College Waycross College	800 – 14,000

Research Population

The target research population for this study was institutions of the University System of Georgia institutions (n=34) and the corresponding institutional strategic and IIT strategic plans. The responsibility of campus technology at the institutional level is designated to persons in positions with a variety of titles including, but not limited to, Chief Information Officer, Director or Executive Director of technology services, Vice President of Information Technology, Associate Vice President or Associate Vice Provost and Chief Technology Officer. On some smaller campuses, the CIO may also have administrative responsibilities for another division of the institution.

The USG is comprised of institutions of varying size, structure and mission. Yet the USG Strategic IIT plan calls for each institution to designate a Chief Information Officer, without specifying the duties related to this title, or according to institutional size or need. Institutions whose technological functions are managed by the university system may not yet realize a need for the specific centralized duties or functions of a CIO, while large complex research institutions may require a fulltime senior administrator in a centralized position to serve

in an administrative and advisory role to the President on matters of technology. Consequently, variations in institutional size may explain the variations in titles of positions encountered in this study. Differing institutional size may also account for the differences observed by institutions (and sectors) in the IIT institutional planning processes. For the purposes of this study, the researcher referred to the person in charge of the technology services division by the generic title: Chief Information Officer (CIO).

The Assistant Vice Chancellor for Information Technology invited the researcher to present her proposed study to the CIOs at the Spring 2004 Administrative Committee on Information Technology (ACIT) meeting in Atlanta, Georgia. It was thought that an introduction to the study would facilitate responses to an email request for participation. The ACIT group is comprised of CIOs representing institutions in the university system. The researcher introduced the study to the group as a precursor to inviting each CIO to participate in the study. To solicit participation, an email was sent to each CIO (see Appendix B) in the university system, whether they attended the Spring 2004 meeting or not. The contact information for each CIO was available on the USG website. A copy of the abstract presented at the 2004 Winter ACIT meeting was included in the email to provide the context for the study. In addition, a participant consent form (see Appendix C) was also included for each respondent to complete and return to the researcher with a response by email or fax. Several CIOs indicated that they would be interested in being contacted for an in-person interview. Others indicated that they were willing to participate in a telephone interview and some indicated that they preferred to participate by email. Very few (three responses by email) declined to participate.

Chief Information Officers agreeing to in-person or telephone interviews were called to determine a mutually convenient time. As the in-person interviews were set up, the appropriate

set of questions were sent in advance of the interview. Similarly, for the telephone interviews, the appropriate questions were emailed in advance to facilitate detailed, comprehensive responses. Six interviews were conducted at a time and place convenient to the CIOs during June and July 2004. All interviews were recorded, as agreed by the CIOs, and transcripts of the interviews were produced to facilitate in depth analysis of the responses. The researcher posed the predetermined set of questions to the CIOs, noted their responses and made notes of her own as the discussion proceeded. The CIOs who did not respond to the initial email, received follow-up emails. The initial follow up email was sent by the Assistant Vice Chancellor for Information technology in mid July 2004. The subsequent emails were sent by the researcher in an effort to encourage participation toward the conclusion of the study in late July 2004. In addition, the researcher presented her preliminary findings at the ACIT Summer meeting in August 2004, where several CIOs who had not previously responded, signed the consent from agreeing to participate. As in the case of the initial email questions, the set of questions appropriate to the responses regarding an IIT plan, were sent out to each additional institutional representative who signed up at the ACIT meeting. Two of the CIOs indicating their interest in participating in the study at the August ACIT meeting did not complete and submit responses to the questionnaire. The researcher collected and cataloged the in-person; telephone and email responses submitted by mid August 2004 and concluded the study. The resulting data is presented in Chapter 4.

Data Source – The Campus Computing Survey

In Spring 2004, the data submitted by institutions (n=31) to the *Campus Computing Survey* along with the campus strategic plans for the thirty-four institutions were obtained from the Associate Director of Assessment and Public Information in the Advanced Learning

Technologies (a division of the University System of Georgia). To acquire information on institutional technology plans, the researcher obtained and reviewed the results of the USG segment of the 2003 *Campus Computing Survey*. The university system and its member institutions chose to participate in the 2003 *Campus Computing Survey* (CCS), which included five (5) specialized questions regarding strategic information technology planning. Thirty-one (31) USG institutions participated in the CCS survey. A review of the data revealed the following:

- Seventeen (17) indicated that the IIT plan is integrated (or aligned) with the USG IIT Strategic Plan.
- Three (3) indicated that their IIT plan is not integrated (or aligned) with the USG IIT Strategic Plan.
- Six (6) do not know whether their IIT strategic plan is integrated (or aligned) with the USG IIT Strategic Plan.
- Two (2) did not respond to the question of alignment with USG.
- Five (5) responded that the institution does not have an IIT plan.
- Of the five (5) without an IIT Strategic Plan, only one (1) indicated it might be integrated (aligned) with the overall institution's Strategic Plan.

The responses to the specific USG questions on the *Campus Computing Survey* provided a preliminary foundation for the framework to review the institutional strategic plans. It was clear from the data above that institutional strategic IIT plans may be included in the broader campus strategic plan prompting further investigation into obtaining institutional strategic plans from the Office of Research and Strategic Analysis at the university system.

This CCS data supplied foundational information about the USG institutions: which institutions are engaged in planning. The researcher then grouped institutions into two categories: engaged specifically in IIT planning and not engaged specifically in IIT planning. The purpose of this categorization was to distinguish institutions performing similar activities for comparison. In addition to the initial data from the USG institutions' participation in the CCS, the researcher reviewed a number of archival documents that contributed to the study. The documents included:

1. USG master (strategic) planning guidelines (http://www.usg.edu/ref/planning/master.phtml),
2. Supporting documents from the USG IIT strategic planning project (http://www.usg.edu/usgweb/iitsp/),
3. USG IIT strategic plan (2002),
4. Institutional strategic plans, and
5. Institutional IIT strategic plans

Review of Institutional Strategic Plans

The researcher acquired copies of the institutional strategic plans from the Associate Director of Assessment and Public Information in the Office of Strategic Research and Analysis at the BOR. A careful review of the institutional strategic plans on file with the university system office was conducted to identify discussions of and references to IIT planning. Thirty-three (33) Institutional Strategic Plans were on file at the time the request was made for a copy of the plans. Each strategic plan is expected to be comprehensive and to reflect the suggested

topical sections found in the Institutional Strategic Planning Guidelines (USG, 2002). The institutional strategic plans are expected to include the following section headings:

- Introduction
- Relationship Among Levels of Institutional Planning
- Purpose of Strategic Planning
- Specialized Plans that Contribute to the Institutional Plan
- The Planning Environment
- Vision and Direction
- The Environmental Fact Base
- Involvement in the Process
- Elements of the Plan
- Evaluating and Updating the Strategic Plan

A summary of the findings from the review of institutional strategic plans can be found in table 4 on page 66 of Chapter 4.

This study specifically addresses one of the "Specialized Plans that Contribute to the Institutional Plan". This subheading from the USG's Comprehensive Planning Process documents suggests that all institutional strategic plans should include plans that are dedicated to reflecting the "broad functional areas of the institution, are guided by the same vision, assumptions and environmental analyses; they operate within the same institutional priorities; and the goals they adopt may become, or will certainly be incorporated in, the institution's strategic goals" (USG, 2002). These specialized plans referenced above include an information technology plan as well as an academic plan, a campus master plan, an enrollment management plan and a fiscal plan. The guidelines go on to stipulate that all "…of these special forms of

institutional strategic planning are inter-related, and all operate within the overall institutional strategic planning process, deriving from it and providing input to it." Therefore, references to information technology planning are expected to be clearly evident in all institutional strategic plans. The researcher reviewed the institutional strategic plans available utilizing a content analysis approach to identify specific references to IIT planning process and activities. The results of this review supplied the basis for reviewing IIT strategic plans, and developing interview questions on institutional strategic IIT planning.

Review of IIT Strategic Plans

The university system encouraged the development of a separate information and instructional technology strategic plan in addition to the campus strategic plan to guide the growth of technology integration for member institution. Following the production of the USG's Master Plan for Information and Instructional Technology by Arthur Andersen in spring 2000, a system level BOR IIT Committee was assembled and comprised of current members of the Board of Regents to guide the ongoing development of IIT planning in the system. The BOR IIT committee subsequently approved the development of a system-level strategic plan for IIT to address the shortfalls of the current Master Plan (USG, 2002).

Chief Information Officers (CIOs) and other institutional representatives attending the Winter 2001 meeting of the Administrative Committee on Information Technology were asked to contribute to the development of system and campus IIT strategic plans to continue the work of the recently completed IIT Master Plan (USG, 2001). CIOs from system institutions were asked to join a "Core Team" to delineate the project. The objectives of the Core Team included, "define a guideline process for each campus to build its strategic [information technology] plan;

define the level of conformity in following the guidelines on each campus; and define the use of metrics to be used by each campus to describe its environment and to measure practices and results against other campuses within the System" (USG, 2001). The resulting report was a series of recommendations made to the university system CIO and Vice Chancellor (http://www.usg.edu/usgweb/iitsp/links/acit_proj_rec.phtml). The researcher was unable to obtain copies of campus plans submitted in response to this comprehensive system planning effort.

As a result, the researcher decided to visit the web sites for the 34 institutions in the university system and performed a search for the following terms "Information Technology", "Information Technology Plan", "Information Technology Planning", "Technology Plan", or "Technology Planning" to locate online copies of campus IIT strategic plans. Sixteen (16) documents were found online. The researcher reviewed the sixteen IIT plans for clarification of IIT planning and processes involved. Following a thorough review, which raised additional questions, the researcher decided it would be useful to meet with individuals responsible for the creation of the institutional IIT strategic plans. Perhaps, the Chief Information Officers (or a designee) would be willing to discuss the process of institutional IIT strategic planning.

Interview Questions

The researcher developed a series of open-ended questions to supplement the information available from the existing documents. Eight core questions were crafted to specifically address the IIT planning process in place at institutions indicating on the 2003 CCS survey that they had an IIT strategic plan. The questions were as follows:

1. Is there a designated person responsible for IIT strategic planning?

2. Is the Chief Information Officer or Chief Technology Officer a member of the institution's strategic planning committee?
3. What is the organizational structure at your institution for ensuring that strategic IIT plans are completed?
4. Where do/will IIT plans originate and how are they routed?
5. What is the working relationship between the person responsible for strategic planning and the Chief Information Officer or the Chief Technology Officer?
6. Have there been challenges in developing the IIT plan?
7. Have they been resolved?
8. In your opinion, what are the next steps that follow the IIT plan development?

Three additional questions were posed to CIOs at institutions who indicated on the 2003 CCS that they did not have an IIT plan at the time of the survey.

1. What priority is assigned to IIT planning?
2. What are some of the major issues that affect IIT planning at your institution?
4. Is there planning underway? If yes, what is the current status/phase?

The study also investigates how institutions organize assessments of IIT planning (continuous information feedback loop) to dynamically inform planning at the institutional level as well as the system level. Institutional plans provided the most focused information on strategic and IIT strategic policies and processes, and were obtained to evaluate the nature and organization of technology planning activities. A review of the planning documents contributing to this study provided another layer of information, which prompted the composition of a series of questions that remained unanswered by the documents. The researcher organized the questions in two questionnaires: one set of eight designed for institutions currently engaged in

planning and a second set of eleven (which included the first eight) intended for those not currently engaged in planning. See interview protocol in Appendix D. The interview questions were separated in two groups to maintain a research construct consistent with the two groupings derived from the initial review of the CCS data. The responses to the questionnaire provided an additional layer of data and information to the study. In short, each source of data provided a unique layer of information to respond to the research questions.

Telephone, in-person and email interviews

The results of the document content analysis suggested the need to acquire additional information to address the research questions completely. The researcher began to assemble questions that remained unanswered but may prove useful in providing information not readily available from the institutional strategic plans. It seemed appropriate that the questions should be addressed to the individuals at each of the thirty-four (34) institutions responsible for the campus wide coordination of information and instructional technology. These individuals bear the title of Chief Information Officers (CIOs). CIOs from each of the thirty-four (34) university system institutions are members of the USG Administrative Committee on Information Technology (ACIT). Contact information for each CIO was listed on the web site of the ACIT. An email was sent to the Chief Information Officers of university system institutions requesting their participation in an interview for this study. Initially, there were to be two types of interviews conducted: in-person and telephone. However, because of the timing of the study and the nature of the management of IIT on college campuses, several CIOs were hesitant to commit to interview dates to far in the future. The option of responding to the questions either by email, in-person or by telephone was extended to all institutional participants and a special effort was

made to offer email response as an option to those who could not commit to an in-person or telephone interview. Several campuses were undergoing program reviews, accreditation reviews and/or major upgrades to campus IIT infrastructure. Nevertheless, fifteen (15) of the thirty-four (34) CIOs responded to the questions. The researcher believed that the wider the variety of modes for responding, the more likely CIOs would be to participate. Therefore, an accommodation to the varying demands on the schedules of each campus representative was an important consideration in this study. Regardless of the medium of delivery (in-person, telephone or via email), the questions did not vary for institutions of similar type. Chapter 4 provides a summary of the responses by question.

The table below presents the responses received to the call for participation in this study. The call for participation was extended to cover an eight-week period.

Table 3. INSTITUTIONAL RESPONSES TO REQUEST FOR PARTICIPATION

Current Classification	Classification Type	Response types	Response types as percentages (%)
Research University (n=4)	I	1 In Person Interview 1 Telephone Interview 2 Did Not Respond	In Person Interviews – 25% Telephone Interviews – 25% Did Not Respond – 50%
Regional University (n=2)	II	1 Email Questionnaire 1 Incomplete Response	Email Questionnaire – 50% Incomplete Response – 50 %
State University (n=13)	III	5 Email Questionnaires 1 In Person Interview 2 Telephone Interviews 5 Did Not Respond	Email Questionnaires – 38.5% In Person Interviews – 7.6% Telephone Interviews – 15.4% Did Not Respond – 38.5 %
State College (n=2)	IV	1 Email Questionnaire 1 Did Not Respond	Email Questionnaires – 50% Did Not Respond – 50%

Current Classification	Classification Type	Response types	Response types as percentages (%)
Two Year College (n=13)	V	2 Email Questionnaires 1 In Person Interview 3 Chose Not to participate 5 Did Not Respond 2 Incomplete Responses	Email Questionnaires – 15.4 % In Person Interviews – 7.6% Chose not to Participate – 23% Did Not Respond – 38.5% Incomplete Responses – 15.4%
Total University System response (n=34)	All types	9 Email Questionnaires 3 In Person Interviews 3 Telephone Interviews 3 Chose Not to participate 13 Did Not Respond 3 Incomplete Responses	Email Questionnaires – 26% In Person Interview – 8% Telephone Interviews – 8% Chose Not to participate – 8 % Did Not Respond – 38% Incomplete Responses – 8%

From the thirty-four (34) institutions, three (3) CIOs agreed to in-person interviews, three (3) preferred telephone interview, thirteen (13) did not respond (DNR) to either the initial or follow-up emails, nine (9) responded to the email questionnaire and three (3) indicated that they did not wish to participate in this study. Three (3) institutional representatives agreed to participate, but did not submit the responses to the questions. From this group of 34 potential participants, at least three (3) CIOs were new to their positions (less than six months) and two (2) institutions were in the process of conducting a search to fill the CIO position. The response rate of CIOs to the study was 44%.

Data Analysis

The researcher conducted literature reviews under the supervision of her dissertation advisor to determine the breadth of research published on this topic in journals and other publications. In addition, in fulfillment of requirements for doctoral coursework, the researcher utilized research opportunities to identify and evaluate research on IIT planning in the higher education environment. It was clear after more than a year of seeking published research and IIT planning models, that this was an area worthy of further research and publication. The researcher

found one model that was slightly relevant to this topic. The model was prepared by a leading K-12 research organization called the North Central Regional Technology in Education Consortium. The model was introduced in chapter 2 and is relevant to this discussion.

The NCRTEC model was initially considered as a lens through which to view institutional data for evidence of interdependent elements such as a vision, infrastructure design, and a plan for creating a learning environment, evidence of public support, implementation activities and ongoing evaluation process. Institutions with on going planning activities continually enhance their basic plans to better fit the institutional environment. The literature review, data collection and interviews on IIT planning led the researcher to conclude that the NCRTEC model may be adequate solely as an institutional model. This study analyses IIT planning on an institutional level as well as on a system level. The NCRTEC model does not appear to contain elements to harness and categorize the inputs, consider the variables of the university system environment and address the mission driven results or outputs of the system IIT planning process. A comprehensive analysis of the scope of IIT planning demands that researchers consider the contribution of dynamic information gathering to feed the planning activity and the impact of environmental issues related to IIT planning. Therefore, a more comprehensive model that considers specific university system environmental attributes seems to be a more realistic approach for this study.

Alexander Astin (1993) has extensively researched assessment activities in higher education, a tangential consideration of Astin's work is perhaps within acceptable limits of this exploration. Astin's basic premise, in a simplistic form, is that any assessment activity must consider the inputs, the environment, and the outputs. Perhaps, if Astin's (1993) model for assessment was coupled with the aforementioned NCRTEC model, an additional stratum

develops that extends the scope for inclusion of external variables that contribute to the IIT planning activities. This amalgamated approach certainly reflects the theoretic scope of IIT planning activities providing an enhanced framework for the context of planning. The figure below represents the tactical picture resulting from the incorporation of institutional inputs to the planning process, considering the environment in which planning takes place and developing an assessment schema to re-connect the outputs which result from the planning process, back into the planning process as input. The resulting configuration underscores the need for an ongoing assessment process in place that continually informs the planning processes and vice versa. The resulting configuration appears in figure 3 below.

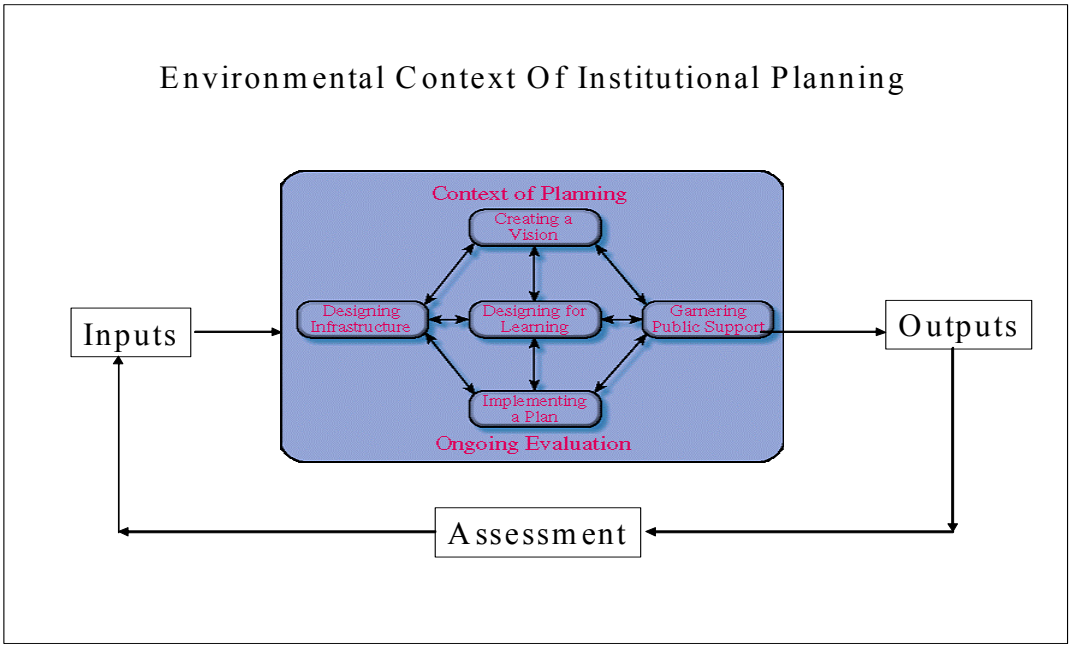


Figure 3. An Amalgamation of Astin and the NCRTEC Assessment and Planning models

This type of modular layering facilitates and brings about the information feedback loop so necessary in planning. However, the resulting configuration seems to focus on the institutional perspective of IIT planning and is more suited to IIT planning activities at the institutional level given the exclusion of specifically identifiable contributions from a governing body such as the university system. It is important to note that no one model or aggregate (as represented above) could be identified at the time of the study that accurately or comprehensively fit the unique nature of planning in the USG as well as its individual institutions. It is also important to note that while there were many research studies put forth by EDUCAUSE, few exist that address system wide alignment of planning. The researcher will therefore attempt to derive a more representative model that best replicates the current practice between system and institution from the strategic planning reports and data gathered in this study.

Some considerations of the research design

The research design was constructed to provide data and information to address each of the research questions. To ensure confidentiality, the thirty-four institutions in the university system were categorized and identified only by type. In addition, only the researcher, her major professor and the members of her dissertation committee have access to the encoded data. The Assistant Vice Chancellor for Information Technology at the Board of Regents has access to the coded data. The results, when publicly presented, will remain in its coded form only. Confidentiality reassured the participants and assisted the researcher as she delivered probing questions to stimulate responses. The researcher addressed issues of assumptions and limitations to guide the acquisition of data and information utilized in this study.

Assumptions of the study

1. The first assumption was, every institution in the USG has submitted one of the following types of reports or plans: annual, strategic or technology in the academic year 2002-03.
2. The second assumption was, reports contain data and information to address and respond to the research questions guiding this study.
3. The third assumption was, a majority of the thirty-four institutions were currently engaged in strategic IIT planning activities.
4. The fourth assumption was, there would be more than one institution of similar type currently engaged in strategic technology planning activities.

Limitations of the study

A well-constructed case study requires the examination of particular factors that may influence the interpretation and accuracy of the data collection process. These factors are reliability, construct validity, internal validity, external validity and subjectivity. The researcher will explain how she addressed each factor as it related to the study undertaken and its limitations. Reliability refers to the stability, accuracy, and precision of measurement ensuring well-documented procedures that can be repeated with the same results each time. The procedures included conducting a literature review, collecting relevant IIT strategic planning documents and conducting interviews with university system CIOs. Evidence of planning models was sought from the literature review and evidence of IIT planning was gathered from strategic plans and IIT strategic plans available. The questions posed in the interviews were included to

provide the context of the data or information source in a manner that is complementary and consistent to the research methodology.

Construct Validity refers to the usage of accurate measures for the concepts analyzed in this study. The researcher attempted to apply the most appropriate methods that are consistent with case study research methodology: document (content) and cross-case analysis. The researcher found that the majority of research reported by EDUCAUSE on IIT strategic planning activities primarily incorporate the case methodology. A recent example exists from work in an EDUCAUSE Center for Applied Research (ECAR) Report entitled Information Technology Alignment in Higher Education by Albrecht, Bender, Katz, Pirani, Salaway, Sitko, and Voloudakis (2004). This dissertation study differs from the ECAR study in that an embedded analysis approach is used where data and information from each participating institution is analyzed in addition to data and information from the university system. The ECAR study only reported individual institutional data although some institutions were a part of a system.

Causal conditions or processes that lead to other conditions or processes demonstrate interval validity. Multiple elements of data from multiple sources assist in revealing convergent themes. The researcher reviewed institutional strategic plans, institutional IIT strategic plans, internal and external reviews of technology planning in the USG, and data submitted in contribution to the annual *Campus Computing Survey*. These data sources provided a multivariate review and analysis required addressing each research question. The nature of the relationship between the USG and institutions is such that institutions are required to respond to requests and guidelines provided by the USG, which lends credibility to the internal validity in this study.

External Validity reflects the generalization of findings beyond the immediate case studied. Techniques such as cross-case examination and within-case examination along with the literature review promote external validity. If the outcomes of the study remain the same regardless of the variations in places, people and procedures of the study, the more external validity is assured. The researcher conducted this study utilizing data from thirty-four institutions that differ in structure, organization, resources and mission. Each institution is compared to others of the same type (within case); across institution types (cross case) and procedures are compared to those in place at the systems level (embedded analysis). Comparative analysis is employed to identify exemplar institutions within the entire university system.

Subjectivity needs to be addressed because the researcher is an employee of one of the institutions included in this study. However, the researcher is not employed in a professional capacity that includes strategic or large-scale IIT planning activities. However, she is tangentially familiar with the level of planning that is underway at her home institution. So any bias is minimized by the data gathered from the supporting documentation provided by the institution.

Chapter Summary

This chapter provides an in-depth explanation of the methodology selected, the rationale for a case study research technique, and how the case study method was employed to produce results reported in chapter 4. The researcher collected a multivariate layer of data and information for analysis purposes. The types of analyses performed included content analysis in the review of the strategic and IIT planning documents acquired; cross-case analysis to compare similar findings from institutions of different types; within-case analysis of institutions of similar

type indicating similar and different findings; and embedded analysis exploring the causal relationship between the individual institutions and the governance provided by the university system.

CHAPTER 4

FINDINGS AND RESULTS

The purpose of this study was to determine the status of IIT strategic planning by the system institutions, identify the processes that guide the IIT strategic planning process, and identify overlapping issues and their impact on technology planning at the institutional and at the system level. The study was guided by the following research questions:

1. What is the status of IIT planning at select system institutions?
2. In what ways do the institutional plans reflect the Strategic IIT Plan of the University System of Georgia?
3. What are the organizational structures and processes that support institutional planning efforts?
4. How were these planning processes selected and delineated?
5. How closely do institutional IIT planning processes and structures align with the university system's strategic planning processes and structures?
6. How is IIT planning assessed and reported to the university system?

From a comparatively broad literature review, analysis of preliminary CCS data on IIT strategic planning, comprehensive document content analysis of institutional strategic plans, the USG Master Plan, the USG IIT strategic plan and institutional IIT strategic plans, the researcher has gathered a multifaceted record of the practices and guidelines germane to IIT strategic planning in the University System of Georgia. This chapter presents the data and results of the content analysis performed on the institutional strategic plans and the interviews conducted with CIOs.

Review of Institutional Strategic Plans

The researcher obtained and reviewed copies of the thirty-three (33) institutional strategic plans available from the university system office. These plans supplied a record of the activities and strategies employed to promote growth and advancement on each campus. From the data collected and presented below, it appeared that regardless of institution type, some institutions (or the representatives completing the institutional strategic plans) believed that if there was an IIT plan, it was prepared and completed as a separate entity from the strategic plan. Almost giving the impression, they knew very little about the IIT plan or its contents.

Many responded with uncertainty about the IIT plan's integration (a CCS term) or alignment with either the institutional strategic plan or the USG's IIT plan. Again indicating that very little is known about this "other" strategic plan (the IIT strategic plan). In addition, there was little consistency in the period covered by these strategic plans. The plan coverage periods varied and therefore the age of the plans varied considerably across institution type. The length of time covered by the strategic plans did not seem to correspond with the time periods suggested in the planning guidelines provided by the university system (USG, 2002).

The issue of cost was a recurrent theme in the CCS data as well as in the strategic plans. Institutions are concerned that technology is a high cost enterprise and many recognize the need to integrate IIT planning with the financial planning process. Integration with the financial planning process assures that funds can be earmarked for the high cost projects and technological tools necessary to support various academic and administrative functions of the institution. Technological tools can be quite expensive, especially tools that are necessary to support functionality across the entire campus. For example, Local Area Networks (LAN) can be costly. Establishing the timelines and costs associated with updating such high performance

and highly utilized tools are an important part of IIT planning. Institutional synergy can be realized when financial planning considers technology costs and vice versa.

The table below presents a summary of the findings from the review of the strategic plans.

Table 4. A SUMMARY OF THE FINDINGS FROM THE INSTITUTIONAL STRATEGIC PLANS BY INSTITUTION TYPE

Classification Type	Summary Findings
I n=3	* 3 indicated there was an IT strategic plan; * 3 indicated the IT strategic plan was integrated with the institutional strategic plan; * 2 indicated that the IT strategic plan was integrated (aligned) with the USG technology strategic plan; * 1 indicated there was not a separate IIT strategic plan and did not respond to question on the integration of the IIT strategic plan with the institutional strategic plan or the USG IIT strategic plan; * 1 referenced a separate IT strategic plan; * 1 indicated with some uncertainty that the institutional IT strategic plan was integrated with the USG technology strategic plan; * 1 mentioned IIT Planning as a distinct topic; * 1 strategic plan was only available as a web/online version; * the time period encompassed by the plans ranged from annual/one year, to five years and ten years.
II n=2	* 2 indicated a separate IT strategic plan; * 2 indicated the IT strategic plan was integrated with the USG technology strategic plan; * 1 referenced a separate IIT strategic plan; * 1 indicated that the IT strategic plan was not integrated with the USG technology strategic plan; * 1 indicated uncertainty that the institutional IT strategic plan was integrated with the USG technology strategic plan; * plans ranged from annual or one year time period only; * 1 institutional strategic plan was seven years old.

Classification Type	Summary Findings
III n=13	* 11 indicated a separate IT strategic plan; * 11 indicated the IT strategic plan was integrated with the USG technology strategic plan; * 9 indicated the IT strategic plan was integrated with in the USG technology strategic plan; * 2 mentioned IIT planning and 1 mentioned the need for IIT planning; * 1 did not respond to any of the questions relating to strategic IIT planning on the *Campus Computing Survey*; * 1 indicate that there was no IT strategic plan, therefore IT plan was not integrated with either the institutional IT strategic plan or the USG technology strategic plan; * 2 did not know whether the IT strategic plan was integrated in the USG strategic plan; * 1 was a 6 year old plan prepared by an external corporation; * plans ranged from unspecified period of coverage to annual/one year to a five year period to a SWOT analysis and a partial update.
IV n=2	* 1 indicated a separate IT strategic plan but there was no mention of a separate plan in the strategic plan itself; * 1 indicated integration of the IT strategic plan with the institutional strategic plan; * 1 mentioned IIT planning; * 1 mentioned the need to develop IT/IIT planning; * 1 did not respond to any of the additional questions on the *Campus Computing Survey*; * 1 indicated uncertainty that the IT strategic plan was integrated with the USG technology strategic plan; * Plans ranged from three-year periods to five-year periods.

Classification Type	Summary Findings
V n=13	* 1 strategic plan referenced a separate IT plan; * 1 mentioned an IT/IIT planning committee; * 2 mentioned IIT planning in the body of the strategic plan; * 9 indicated there is a separate IT strategic plan; * 9 indicated that IT strategic plan was integrated in the institutional strategic plan; * 6 indicated the IT strategic plan was integrated in the USG technology strategic plan; * 3 indicated they did not have a separate IT strategic plan; * 2 indicated they did not a separate IT strategic plan therefore it was not integrated with the institutional strategic plan or the USG technology strategic plan; * 1 indicated there was no separate IT strategic plan, but it was integrated in the institutional strategic plan and did not provide a response to the question on integration in the USG technology strategic plan; * 1 indicated there was no separate IT strategic plan, but it was not integrated in the institutional strategic plan as well as in the USG technology strategic plan; * 1 did not respond to any of the separate questions on the *Campus Computing Survey*; * 1 indicated that the IT strategic plan was integrated with the institutional strategic plan but not integrated in the USG technology strategic plan; * I indicated uncertainty whether the IT plan was integrated with the USG technology strategic plan; * plans ranged from covering annual/one year periods to two year periods to three year periods to five year periods to addenda, revisions alone and drafts.

Observations from reviews of the institutional strategic plans

From reviews of the thirty-three (33) strategic plans, institutions acknowledged the importance of IIT strategic planning. Several institutions indicated that there was a separate IIT plan in addition to an overall strategic plan, but the majority of institutions indicated that they did not have a separate IIT strategic plan. Several institutions did not refer to guidelines or information from overall institutional strategic or system technology plans. Given the response to the questions on the integration of the strategic information technology plan with other types

of institutional or system strategic plans, it appeared that many CIOs were not aware of how well integrated or aligned their strategic plans are with the university system technology strategic plan.

The indication of uncertainty of the alignment of strategic plans between institutions and the university system was reflected in the lack of consistency in the format of strategic plans. The type of "strategic plan" submitted to the BOR varied widely as evidenced by the submission of drafts and plans that were several years old. Institutions also submitted addenda to previous plans, limiting the scope of the current information available. Some plans include references to information technology, some include aspects of instructional technology, but few included both in their campus strategic plans.

Review of IIT strategic plans

The researcher obtained copies of IIT strategic plans from institutional web sites for sixteen of the thirty-four (47%) institutions in the university system. She performed a search for using terms that would identify "Information Technology", "Information Technology Plan", "Information Technology Planning", "Technology Plan", or "Technology Planning" in the online copies of campus IIT strategic plans. There were sixteen (16) documents found online. Ten (10) of the sixteen were IIT strategic plans available through public access. Six (6) additional documents were accessed that seemed to represent part of a section on IIT included in the overall institutional strategic plan. These six (6) documents seemed to represent the institutions' vision and goals for technology. None of the 16 documents reflected the format or the elements as suggested by the ACIT Core Team for IIT planning documents.

The ACIT Core Team's suggested guidelines for the preparation of institutional IIT strategic planning documents suggested that strategic plans should incorporate and describe IT strategic planning elements of process flow, timing, participation, strategic planning tools, guidelines, metrics and outstanding issues (http://www.usg.edu/usgweb/iitsp/links/acit_proj_rec.phtml).

Observations from the review of IIT strategic plans

According to the ACIT Project Recommendations (USG, 2001), the "process flow" planning element should minimally:

- Capture the status of the current environment;
- Gather inputs;
- Identify strategic IT direction for the campus along with specific goals and objectives;
- Identify and prioritize IT strategic initiatives;
- Identify funding for IT strategic initiatives;
- Identify action items and timelines;
- Develop assessment mechanisms and process;
- Create the strategic plan document;
- Assess progress, status and value of information technology strategic initiatives based on metrics established in the initial plan (completed annually after initial definition of strategic plan).

Twelve of the 16 (75%) online documents addressed process flow as decentralized, specialized or coordinated. These three descriptors (decentralized, specialized and coordinated)

only addressed the status and source of inputs to the process. The "timing" element should reflect the development of the initial IIT strategic plan over a three-year period with annual reviews and updates. Thirteen of the 16 (81%) online documents included a time period covered by the plan. The time element in ten of the thirteen cases included the prescribed one-year updates; none of the online documents followed the prescribed three-year planning period format.

"Participation" refers to the support and involvement of the administration, academic representatives, support units and students who are critical to the IIT strategic planning process. Fifteen of the 16 (94%) online documents included the names of groups, councils, committees, teams or task forces involved in the IIT strategic planning process. The ACIT Core Team suggested that the use of "strategic planning tools" should be promoted throughout the university system as another integral planning element. Ten of the 16 (62%) online documents reported utilizing tools such as self-study reports, consultants, assessments, and SWOT analyses. These tools may also be utilized in the development of metrics as indicators of growth and performance.

"Guidelines" refers to the prescribed process of the Core Team document as a standard for process and content, at the same time including unique institutional elements. Strategic goals and objectives were clearly included in fifteen of the 16 (94%) documents found online. Twelve of the 16 (75%) discussed institutional goals, policies, follow-up plans or procedures. "Metrics" involved methods for measuring needs, progress and successes to ensure the institutional growth and peer comparisons. These metrics may include staffing, revenue and cost, IT structure/strategy/support, systems environment, control and security, IT policies and instructional support. Fifteen of the sixteen (94%) documents reported the use of effectiveness

indicators, surveys, benchmarks, goals, objectives, evaluation, and performance indicators as mechanisms to measure needs, progress and successes.

"Outstanding issues" as an element allows significant institutional input regarding effective processes that are significant to the institutional IT strategic plan development. Fifteen of the 16 (94%) institutional IIT planning documents reported outstanding issues that remain unresolved. Unresolved or outstanding issues included network infrastructure, centralization or coordination, maintenance, effective business practices, staffing, and data warehousing. Table 5 below compares the elements suggested by the ACIT Core Team for submitting IIT strategic plans and the content of the institutional strategic technology plans found online.

Table 5. COMPARISONS OF ACIT CORE TEAM GUIDELINES AND INSTITUTIONAL IIT STRATEGIC PLANS FOR ALIGNMENT.

USG IIT Planning Elements	Classification Type I n=3	Classification Type II n=2	Classification Type III n=7	Classification Type IV n=1	Classification Type V n=3
Process Flow	• Decentralized. • Coordinated through the Office of the CIO.	• Specialized Plans develop from Institutional Plan.	• Coordinated through the Office of the CIO.	Not addressed	Not addressed
Timing	• 5 years • 2 years • 1 year updates	Not addressed	• 5 years • 2 years • 1 year	Not addressed	• 2 years.
Participation	• Technology Working Group. • Leadership Team approach.	• Strategic Planning Council or Committees.	• Faculty Senate Technology Planning Committee. • Instructional/ Administrative Advisory Committee. • Technology Planning Task Force.	Not addressed	• Strategic Planning Council.

USG IIT Planning Elements	Classification Type I n=3	Classification Type II n=2	Classification Type III n=7	Classification Type IV n=1	Classification Type V n=3
Strategic Planning Tools	• Self Study. • External Consultants. • Institutional Assessment.	Not addressed	• SWOT Analysis. • External Consultants.	Not addressed	Not addressed
Guidelines	• Institutional Follow up Plan. • Goals and Objectives.	• Action steps. • Institutional Goals. • Strategic Goals.	• Strategic Goals. • Institutional Policy and Procedure Manual. • Unit Goals. • USG Policies.	Not addressed	• Strategic Objectives.
Metrics	• Effectiveness Indicators. • Surveys. • Benchmarks. • Institutional goals.	• Strategic Objectives. • Monitoring of Institutional data.	• Documentation • Evaluation. • Summary & Recommendations. • Surveys. • Monitoring &Coordination. • Performance Indicators.	Not addressed	• Institutional Goals and Objectives. • Institutional Planning Priorities. • Goals of USG IIT Strategic Plan. • Surveys.
Outstanding Issues	• Network Infrastructure. • Hardware and software maintenance. • Information Accessibility. • Effective Business Process. • Data Warehousing.	• Network Infrastructure. • Seamlessness with satellite campuses.	• Inventory Coordination. • Centralization • Staff Classification. • Security. • Resource Coordination. • Support Services.	Not addressed	• Centralization of IT services.

The researcher was unable to locate any IIT strategic planning documents or documents with specific references to IIT planning in strategic plans on the web sites of the institutions classified as type IV. The above findings suggest that broad similarities exist among institutional classification types as related to the elements of planning. For example, institutional approaches to the application of "guidelines" and "metrics" in the Planning Elements column are similar in

nature as reflected in the application of goals, objectives and similar indicators of success. Noting these commonalities, the researcher then turned to the responses to the interview questions for comparative analysis.

Interviews

Interviews were conducted with the CIOs from a total of fifteen (15) USG institutions. Three (20%) CIOs agreed to in-person interviews, three (20%) requested telephone interviews, nine (60%) preferred to participate by email and requested the questions in an email format. The researcher forwarded eight questions to participants who previously indicated on the *Campus Computing Survey* (CCS) that they had a separate IIT strategic plan. Eleven questions (inclusive of the previous 8) were forwarded to participants who previously indicated on the CCS that they did not have a separate IIT strategic plan. The researcher aggregated the responses received by email, in-person, or telephone because the questions were identical.

A detailed response inventory is available in Appendix F by institution classification type for email, in-person and telephone interviews. The responses have been aggregated to preserve the confidentiality guaranteed to participants in cases where a low number of interviews might lead to individual identification. The questions presented to each campus representative were based on their response to the five USG questions on the *Campus Computing Survey* inquiring about the existence of a campus IT plan. The data from the USG questions on the survey were used to generate a list of outstanding questions that would be posed to institutional representatives agreeing to participate in this study. Eleven CIOs (73%) responded to eight questions (crafted for institutions that had a separate IIT plan) and four CIOs (27%) responded to eleven questions (crafted for institutions that did not have a separate IIT plan).

Observations from interviews

There were eleven questions, eight universal and three additional. The eight universal questions represented recurring themes that were not addressed in the strategic or IIT strategic plans. Unless otherwise stated, the questions below were posed to the fifteen participating institutional representatives regardless of the existence of a separate IIT plan.

1. Is there a designated person responsible for IIT Strategic Planning?

Overwhelmingly, 13 CIOs (87%) responded affirmatively to this question. Two CIOs (13%) indicated that a single individual had not been assigned the responsibility for coordinating the process of creating a separate IIT strategic plan. Further probing revealed that a strategic planning committee held the responsibility for creating a campus strategic plan at both institutions. A review of the campus strategic plans for both institutions indicated that neither included an IIT planning section among the topical sections.

2. Is the CIO or CTO a member of the institution's Strategic Planning committee?

The response to this question seemed to indicate a high degree of participation by CIOs and a low degree of delegation. Generally, if the CIO was appointed member to the campus strategic planning committee and there were no other peer (or similar management level) positions appointed; a subordinate was delegated to the committee. Such was the case at one institutions who delegated a subordinate who was a direct report to the CIO. Four CIOs (27%) indicated that they were not a member of the institutional strategic planning committee. One institutional representative was uncertain which strategic planning committee was referenced in

the question. Ten CIOs (67%) affirmed their membership on the campus strategic planning committee.

3. What is the organizational structure at your institution for ensuring that strategic IIT plans are completed?

Twelve CIOs (80%) referred to formal planning structures in place including planning committees, department of institutional effectiveness, department of institutional research, and the use of software to coordinate campus IIT planning efforts. At the time of this study, three CIOs (20%) reported no formal structure in place to coordinate campus input in the IIT planning process.

4. Where do IIT plans originate and how are they routed?

Origination and routing processes varied as much as the size and classification of participating institutions. The responses were resonant of the broad variety of practices. In general, planning committees routed draft plans to and from departments throughout the planning process. Once the planning committee reached agreement, final copies of the IIT strategic plan were sent to the President, the Provost (including Senior Vice Presidents for Academic Affairs, the CIO, the Deans, the Office of Institutional Effectiveness), and the campus planning committee retained a copy. Where no formal planning structures existed, copies of the final plans were randomly routed.

5. What is the priority assigned to IIT Planning?

This question was posed to four participating representatives from institutions that did not have a separate IIT plan at the time of this study. This question generated much discussion from institutional representatives. All felt strongly that IIT strategic planning was a priority, but not held at a higher priority than any other critical areas on campus. Representatives also felt that though the priority is clearly increasing, there is room for improvement.

6. What is the working relationship between the person responsible for Strategic Planning and the Chief Information Officer or the Chief Technology Officer?

Seven CIOs (47%) responded that the duties and the responsibilities of the person responsible for campus strategic planning and the chief information officer were divergent and generally presented few opportunities for collaboration. Three CIOs (20%) indicated no formal working relationship, and two (13%) reported an excellent, collegial and collaborative relationship. When asked about specific project collaborations, CIOs referred to the joint participation in the activities of the campus strategic planning committee. Three (20%) CIOs stated that both positions were merged into one position on their campus.

7. What are some of the major issues that affect IIT Planning at your institution?

This question was posed to four participating representatives from institutions that did not have a separate IIT plan at the time of this study. The four CIOs all indicated that the decentralized nature of their institutions were major issues affecting IIT planning. In addition, they cited the limited availability of resources defined the scope of planning and confined the scale of an IIT plan implementation. One CIO cited the ability to identify and keep up with

trends as a limitation to the institution's ability to satisfy its user community. Another CIO carefully remarked that there is a general lack of understanding for the need for IIT planning.

8. Have there been challenges in developing the IIT plan?

There were no similarities to the responses to this question among institutions of the same type. One insightful CIO pointed out that challenges lay ahead. Another CIO indicated that not having an existing IIT strategic plan was a major challenge to the development of an IIT plan. Other challenges identified were resources, decentralization, gaining buy-in, security compliance, maintaining the IIT plan, consensus building in a decentralized environment, and unanticipated campus environment issues. Two CIOs (13%) said there were no challenges evident at their institution.

9. Have they been resolved?

In question eight, the two CIOs indicating there were no challenges to IIT planning on campus, responded there were none to resolve. However, seven CIOs (47%) indicated that resolutions were underway. Five CIOs (33%) stated the challenges to developing an IIT plan had not been resolved. Only one CIO stated that the challenges were resolved.

10. Is there planning underway? If yes, what is the current status/phase?

This question was posed to four participating representatives from institutions that did not have a separate IIT plan at the time of this study. CIOs from two of the four responding institutions reported the campuses were currently in the initial stages of planning. The other two CIOs stated that IIT planning was not in progress. A further probe to one CIO from an

institution not engaged in IIT planning revealed that inclusion of IIT in the broader campus strategic plan worked well for that particular institution. The representative from a second institution not currently engaged in planning stated there was no support or resources available for IIT planning as a separate process on the campus.

11. In your opinion, what are the next steps that follow the IIT plan development?

The responses to this question can be categorized in six main areas: keeping the plan updated, ongoing assessment, gaining campus buy-in, implementation, funding, institutional and system alignment. It was clear from the discussions generated by this question that challenges remain, issues have not yet been resolved, but CIOs were realistic about the future of IIT strategic planning on their campus.

The interview questions generated a lot of feedback and discussion about tangential issues, not applicable to the focus of this particular study. Certainly, the taped interviews and transcripts of these interviews present a wealth of information for follow up studies. The institutional representatives welcomed the questions and opportunity to dialogue about issues they deal with everyday. It was also evident to the researcher that many felt these issues were finally getting some level of indirect acknowledgment through this study. CIOs were cooperative when asked if they could be available for a possible follow up conversation.

Follow up and/or general questions

All participants were asked to indicate a day, date and time that was convenient to their schedule to receive a follow up call from the researcher should follow up questions arise. Some issues of technology planning require clarification to ensure accurate representation in this study.

The follow-up period ranged from July 2, 2004, through July 31, 2004, the anticipated close of the interview phase of the study. The three-pronged analysis of the strategic plans, IIT plans and the responses to the questions provided comprehensive data and information to address the research questions. Follow-up questions were not required for clarification purposes.

Chapter Summary

The strategies and structure of IIT planning in the University System of Georgia were guided by a comprehensive set of documents readily available on the USG's web site (http://www.usg.edu). This case study on IIT planning harnesses data from several sources, including the University System of Georgia. The *Campus Computing Survey* and the USG documents provided pivotal guidance to the direction of the study. The institutional documents supplied information on the core institutional issues not addressed by other data sources. Interviews provided the most comprehensive array of information on the status, structure and processes involved in strategic IIT planning at USG institutions. Twenty-six (26) institutions reported on the *Campus Computing Survey* that there was an institutional IIT strategic plan. However, the researcher found only sixteen (16) IIT plans and IIT planning documents online, which inferred that the remaining ten (10) institutions are in the process of developing IIT plans (a total of twenty-six stated on the CCS they had an IIT plan). The potential applicability and generalization of the findings reported in this chapter are discussed in chapter 5.

CHAPTER 5

CONCLUSIONS

Technology planning is on everyone's agenda, not for the sake of dealing with technology, but for achieving what technology makes possible (Boettcher, Doyle and Jenson, 2000). Institutions interested in what technology makes possible are more likely to choose a process that has proven effective or adopt what has proven effective at a similar institution. How can the USG guide and assist its 34-member institutions toward the selection of appropriate processes for growth and development of technology on each campus?

Technology is certainly on the agenda of the University System of Georgia. Each of the 34 institutions is expected to appoint a Chief Information Officer to shepherd and coordinate the development, management and growth of IIT within the guidelines and limitations of the USG. The central coordination of IIT planning in the 34-institution system is the responsibility of the CIO and Vice Chancellor for Technology in the USG. This central coordination relies on the decentralization inherent to the unique mission of each institution. However, a central vision can be communicated through the provision of guidelines, policies, and procedures. The strategic plans, supporting documents, and interviews of institutional representatives show that USG guidelines, policies, and procedures clearly communicate the expectations for planning. However, the importance of consistency and need for alignment with the governing body, at the institutional and system level, has been ambiguous to the member institutions.

The purpose of this study is to determine the status of IIT strategic planning by the system institutions. The status of IIT planning shapes alignment to the USG guidelines, policies and procedures over time. Identifying the structure of the institutional IIT strategic planning

process, and relevant issues assists in determining alignment to the USG guidelines for the organization and unique direction of the planning activities at the institutional level. From a review of the strategic planning documents, a consistent direction, structure and organization is critical to achieving alignment.

The study was guided by the following research questions:

1. What is the status of IIT planning at select system institutions?
2. In what ways do the institutional plans reflect the Strategic IIT Plan of the University System of Georgia?
3. What are the organizational structures and processes that support institutional planning efforts?
4. How were these planning processes selected and delineated?
5. How closely do institutional IIT planning processes and structures align with the university system's strategic planning processes and structures?
6. How is IIT planning assessed and reported to the university system?

A number of sources were accessed in the collection and analysis of institution and system specific data. One data source would certainly not be sufficient to tell the story of IIT strategic planning in the 34 system institutions. It was evident to the researcher that it would be difficult to identify only one source of information to tell all thirty-four (34) stories. Each source contributed a unique dimension to convey a comprehensive picture of IIT strategic planning. This chapter draws from all sources of data to present conclusions, implications, and offers basic recommendations.

Findings relative to the research questions

1. What is the status of IIT planning at select system institutions?

The researcher reviewed institutional strategic plans, IIT strategic plans (where they were separate from the campus plan) and conducted interviews to gather data and information to address this question. From the data and information in the reports, the researcher found that with few exceptions, the majority of institutions in the university system of Georgia are in the process of, or have undertaken some type of planning that focuses on information and instructional technology. Three institutions (of the 31 responding to the CCS) stated that they did not have a separate IIT strategic plan and IIT strategic issues were not included in the overall campus strategic plan. However, a review of the web sites of these three institutions indicates that IIT issues are referenced in institutional priorities and in descriptions of the services available to faculty, students and staff.

While planning may not be happening as prescribed by the USG Institutional Strategic Planning Guidelines (2002) or by the ACIT IIT Strategic Planning Project Recommendations (2001), it is fair to say that IIT planning is happening on some level at 91% (31) of university system institutions. Only one institution developed an IIT strategic plan consistent with USG guidelines. Even so, this institution did not follow the format of the ACIT IIT Strategic Planning Project's recommended layout (2001). One participating institution and one non-responding institution (to the interviews) not previously engaged in IIT strategic planning, are currently engaged in preparing proposals on the need for a campus IIT strategic plan for the President's consideration. Overall, only two of the fifteen responding institutions (to the interviews) have not yet undertaken IIT strategic planning.

Feedback loops from planning processes appear to be in place in some cases, but it was unclear whether action has been taken on the feedback provided. Only one institution seemed to have a maturely developed planning process. The majority of institutions recognize the importance of developing IIT strategic planning processes beyond the current status and level, but internal organizational issues and lack of a centralized IIT vision, limit the evolution. For many, there are unclear guidelines at the institution level that preclude the interpretation and implementation of the USG guidelines. The researcher encountered a willingness to adhere to policies and guidelines, but with interpretation and guidance from the centralized institutional administrative structure. Some of the participants acknowledged that over time, planning processes would mature as the university system continues to assist institutions in a process of continual alignment.

It is important to note that the USG functions as a coordinating and facilitating body and the system respects institutional autonomy over a wide-range of activities and decisions. Each institution also has its own constituents and therefore priorities are established and weighed accordingly. Differences noted in the institutional planning processes reflect the institutional response to its own unique structure, organization, and politics. Differing institutional size may account for the differences observed in institutional planning processes.

2. In what ways do the institutional plans reflect the Strategic IIT Plan of the University System of Georgia?

The researcher reviewed the institutional IIT strategic plans to determine whether institutions that were conducting planning activities included planning for IIT with goals and objectives that mirrored the five strategic goals and objectives of the 2002 IIT strategic plan for

the University System of Georgia. The five USG strategic goals are: enhance student learning, expand reliable and secure access to information and services, increase customer focus, ensure continuous innovation, effectively and efficiently plan and manage IIT operations.

Of significant interest is the presence of goal number five in institutional plans. The reference to effective and efficient planning and management of IIT operations was typically expressed as a need in only two of the thirty-three (6%) of the campus strategic plans reviewed. While many plans addressed the five strategic goals in very broad ways, there was little consistency in the order, manner or exact title of the specific strategic goals. Five of 13 (38.5%) of institutions classified as type V referenced more than one, but not all of the five strategic goals. The USG IIT strategic goals were inferred in many different ways in institutional strategic plans, but the researcher did not find clear use of the specific terms used to describe the USG's goals. Instead, many institutions took full advantage of their individual autonomy and adhered to the stated mission of providing highly distinct and individualized campus experiences.

3. What are the organizational structures and processes that support institutional planning efforts?

The researcher reviewed institutional strategic plans and IIT strategic plans to determine the organizational structures and processes in support of the planning activities. Structures and processes include reviews, meetings, committees, funding, travel, reports, staff, leadership hierarchy, and delineated reporting lines as evident in organizational charts. Of the fifteen (15) respondents to the interview questions on IIT strategic planning, seven (50%) discussed the existence of a campus wide committee charged with preparing and evaluating IIT functions and processes. The various committees were referred to by the following names:

IT Task Force
Faculty IT Advisory Committee
IT Planning Committee
IT Strategic Planning Committee
Administrative Technology Committee
IT Advisory Committee
Technology Master Planning Committee

The names varied, but similar committees were often appointed by the President or the Provost to represent a wide constituent group (faculty, staff and students) and were charged with oversight of the information and instructional technology planning process.

Various technology committees exist in addition to a campus wide strategic planning committee at each of the fifteen participating institutions cited here. In each of the seven cases, the Chief Information Officer is responsible for IIT Strategic Planning and he/she chairs the committee. In other cases (where a committee does not exist), the Vice President for Academic Affairs appointed someone, such as the Director of Institutional Research and Planning or the Director of Institutional Effectiveness to coordinate the collection and compilation of unit plans. In each of the seven cases, the campus strategic and IIT strategic plans were routed to the President and to the President's Executive Cabinet once prepared. The cabinet members (Vice Presidents, Deans and the Provost) then disseminated the compiled plans to the individual units they represented. Routing the plans back to the units from which they originated ensured that campuses are "closing the loop" on the planning process.

Information obtained from the interviews inferred that budgetary restrictions could constrain the free flow of ideas in the planning process. Many campuses are decentralized and there is high competition for resources to fund projects with tangible outcomes. The IIT planning process itself does not produce tangible results until the process is actually implemented, but funds are often necessary to implement tactics from the plan. Challenges to

planning efforts include the decentralized organization of campuses, which hampers consensus building. Other challenges identified from this study include: resource allocation to IIT planning; gaining "buy-in" to the visioning produced by planning processes; timely gathering of input to the plan; assuring the IIT accurately reflects service/support needs of the campus; keeping up with trends in IIT, and a general lack of understanding of the need for IIT planning.

There are at least two CIOs currently working on proposals to submit to their Presidents to heighten the importance of IIT strategic planning and to implement an annual planning process. The presidential priority given to IIT strategic planning underscores its importance to the entire campus. There was only one institution where the IIT strategic plan was not routed to the President or the Provost. This institution had significant involvement from faculty in governance processes resulting in the preparation of the IIT strategic plan. The plan was vetted through a sub-committee of the university Faculty Senate that requested the plan, presented requirements, asked questions, and raised issues regarding IIT on that campus. This was the only example of such comprehensive faculty involvement.

4. How were these planning processes selected and delineated?

The researcher reviewed IIT strategic plans to identify the process of planning, intended activities and desired outcomes. IIT strategic plans provided the source for the identification of a specific process, the steps to adoption of this process, the steps involved in negotiating changes to the process, and the source and type of process selected. The researcher assumed there were similarities in the IIT strategic planning process across institutions because of the work of the ACIT in 2001 to develop guidelines for a systematic process. The researcher intended to represent commonalities in the planning processes using charts, graphs, or figures. However, the

processes were so varied and disparate that one figure or model could not be easily identified that would accurately represent IIT strategic planning processes for all USG institutions.

The researcher did not ask a specific question to address the selection or adoption of a particular type of planning process. Her knowledge of the interrelated workings on college and university campuses suggested that a specific process emerged from the need to create an IIT strategic plan. The information reported in the interviews suggested that this assumption was correct. Data from each of the fifteen (15) institutions participating and nineteen (19) non-participating institutions in the interviews, suggested that IIT strategic planning was handled in one of three ways: as a separate process, included in the campus strategic plan as a part of the overall campus strategic planning process, or a combination of both. The USG data from the *Campus Computing Survey* suggested that twenty-six (83%) institutions reported a separate IIT plan, twenty-six (83%) institutions reported the IIT plan as a part of the institutional campus strategic plan and twenty-five (80%) reported that they chose to have a separate plan that was also included in the overall campus strategic plan.

Each of the fifteen (15) CIOs interviewed reported that they routinely requested IIT needs from subordinate department heads. Department heads in turn, requested input to the list of IIT needs from the unit heads to submit to the CIO. In cases where the President or the Vice President for Academic Affairs appointed a committee to coordinate the IIT strategic planning process, the committee received the unit and department plans from the CIO. In fourteen of the fifteen institutional planning processes reviewed, the CIO was a member (or designated a member) of the campus strategic planning committee. See Appendix F.

In almost every case where data were available (14 of 15 cases), institutions employed a centrally coordinated approach to gathering IIT needs from decentralized unit planning. It is

important to note that all USG institutions were actively engaged in individual unit planning to identify technology needs, though the institution may not be engaged in a separate IIT strategic planning process. Interviews revealed that requests for IIT strategic plans were made through a top down approach and institutional IIT strategic plans were created with a bottom up approach. Completed IIT strategic plans were typically submitted to the Office of the President, Office of the Vice President for Academic Affairs as well as the Office of the Director of Institutional Research and Planning.

The researcher found only one exception (1 out of 15) to a decentralized approach to planning, which represented a central coordination and creation of an institutional IIT plan. At this institution, an annual survey was sent to departments to determine technology needs. The data and information were collected and a draft plan prepared. The IIT draft plan for the campus was then redistributed to departments for final comments and input. The completed copy was forwarded to the appropriate department for retention. At this institution, there was a campus strategic planning group, but they did not receive a copy of the IIT plan. The President's Office did not receive a copy of the plan, the Office of the Vice President for Academic Affairs did not receive a copy of the plan and the Director of Institutional Research and Planning did not receive a copy of the plan. Another institution acquired the services of a consulting firm to construct an IIT planning process and created the campus IIT strategic plan. A review of the sixteen (16) plans available online, indicated there were many variations in the structure of the IIT strategic plans.

5. How closely do institutional IIT planning processes and structures align with the university system's governing strategic planning processes and structures?

The researcher reviewed the guiding document for IIT strategic planning for the University System of Georgia entitled "Learning Without Limits" (USG, 2002) as well as the ACIT IIT Strategic Planning Project Recommendations (USG, 2001). These documents provide guiding principles for IIT strategic planning processes governing the USG institutions and suggested approaches to creating (and reporting) respective IIT planning processes. The researcher thought it useful to this study to compare the structure and organization of planning activities at each of the USG institutions with the suggested USG guiding policies for planning to determine whether institutions are engaged in planning activities that closely mirror the strategies suggested by the USG. It was hoped that differences between the campus planning process and the USG planning guidelines would be evident from the institutional IIT strategic plans. However, the institutional planning (strategic and IIT) documents did not provide clear identification of the source of the guidelines employed.

The USG IIT strategic plan provides significant latitude to institutions in the preparation and development of IIT strategic plans. The guidelines suggest five (5) foundational goals and objectives: enhance student learning, expand reliable and secure access to information and services, increase customer focus, ensure continuous innovation, effectively and efficiently plan and manage IIT operations. While data from institutions suggested that institutions classified as type I, II and V addressed four of the five goals, many did not specifically address the five foundational goals listed above. Therefore, if institutional plans are to reflect the five goals suggested by the USG, alignment is needed at the institutional level.

Regarding the structure and organization of the IIT strategic planning process, the USG guidelines highlight seven (7) planning elements that were developed by the 2001 ACIT Core Team preparing the project recommendations for USG's IIT Strategic Planning Project (2001).

These seven elements are process flow, timing, participation, strategic planning tools, guidelines, metrics and outstanding issues. The researcher found that IIT strategic planning documents from institutions classified as type I contained all seven elements (100%) in the description of the planning activities taking place on campus. Planning references from institutions classified as type II contained five of the seven elements (71%) of the planning elements were used in the description of planning activities on these campuses. Institutions classified as type III referenced how each of the seven elements (100%) related to the planning processes under development. Participating institutions classified as type IV did not address any (0%) of the seven planning elements. This is also consistent with the status of planning reported by institutions with this classification. Data from institutions classified as type V revealed five of the seven (71%) of the planning elements proposed by the ACIT Core Team. Institutions classified in this study as type II, IV and V could benefit from alignment with the USG policies in order to reflect the seven planning elements suggested by the ACIT.

Moore (2001) refers to a tri-partite leadership role of institutional Presidents in balancing the social, political, and academic needs of the institution. Alignment with the university system goals, plans, activities, and priorities may not always correspond with the individual institutional goals, plans, activities, and priorities. The University system encourages differences through the individual autonomy expected from each of the university system institutions. Institutional decisions are influenced by the social and political context of the campus and USG policies vary in implementation from institution to institution. Policy implementation rarely occurs in an identical fashion. There is both collaboration and competition among institutions as well as between institutions and the USG. University systems respond to particular issues while institutions are responding to their own set of issues resulting

from the intersection of goals, plans, activities, and priorities in the social, political, and academic context of the campus. Planning is embedded in the intersection of the social, political, and academic context of institutions.

6. How is IIT strategic planning assessed and reported to the university system?

The researcher explored web sites of the thirty-four (34) university system schools to obtain copies of IIT strategic plans. IIT plans were found in a myriad of forms accessible for sixteen of thirty-four (47%) USG institutions. One institution referred to an IIT plan in a variety of documents on the web, but the plan itself was password protected and not publicly accessible.

Measures incorporated in ITT plans found on institutional web sites

This is an area worthy of further research. Few IIT plans reviewed in this study incorporated benchmarks or performance indicators. However, state systems of higher education seem to recognize the need to demonstrate the utility and impact of technological enhancements by measuring their effectiveness in accomplishing stated institutional goals and objectives. Evaluations of quality should be included in IIT plans to provide justification and support for the planned projects.

Though IIT planning is underway in various forms at 91% of university system institutions, measuring the progress of planning, the attainment of goals and the application of objectives mirrored the variety of institutional measures developed to aid the strategic planning process. Two institutional IIT strategic plans included a SWOT analysis (also called SWOT assessment or SWOT report) in their IIT strategic plan. A SWOT analysis refers to a

determination of the institutions' strengths, weaknesses, opportunities and threats to IIT strategic planning on campus.

The researcher found one institution with an IIT strategic plan that included goals, action steps, expected outcomes and effective measurements. The effective measurements referred to five performance indicators: cost effectiveness, time efficiency, staff productivity, customer satisfaction and higher education benchmark. At this institution, surveys were utilized to measure customer satisfaction and comparisons to peer institutions were used to establish baseline performance to benchmark. This institution's IIT plan was linked from the main institutional strategic planning web site for ease of access. At another institution (with a decentralized approach to IIT planning), a commitment to planning was mentioned in the campus strategic plan, and effectiveness indicators referenced included user satisfaction surveys of services provided to faculty, staff and students. The campus strategic plan indicated an intention to benchmark IIT using data from other universities while addressing difficulties coordinating the planning efforts of the many "ad-hoc" technology organizations and work groups that have developed on the campus.

The researcher was able to access nine (9) IIT strategic plans and documents from the web site of institutions that did not respond or participate in the interviews. Given the low participation rate from institutions classified as type V in this study, the researcher thought it important to report some of the findings from the online documents for type V institutions. One institution included a very detailed "Plan Assessment Report" as an appendix to the IIT strategic plan. The report included goals such as: "Computer Services staff will remain current and up-to-date on the latest equipment, software, and technology" with a number of objectives listed for a single goal. For example, one of the objectives for goal 1 stated was, "Computer Services

[department] will perform upgrades on all mainframe systems". The method of assessment for this objective was "All upgrade notifications will be announced on the list serve. Once this occurs, all upgrades will be downloaded to local servers and performed in a timely manner in accordance with OIIT guidelines". Assessment results were listed and included information on the use of the results. This plan assessment report is one example of a detailed IIT assessment plan encountered in this study.

In addition, another institution engaged the services of a regional consulting firm to create its IIT strategic plan. Among the many sections included was one entitled "Monitoring System". This section outlined the performance measures used and outcomes expected. The measures took the form of action steps, such as "Develop position description, develop mission statement for IS (Information Systems) Department and Director". This particular institutional plan was certainly the most comprehensive and all encompassing IIT strategic plan encountered in this study. It included 24 goals (that were eleven pages long), 54 objectives, 103 measures, a timeline for completion and 101 performance outcomes for the goal measures listed in the "Monitoring" section.

The University System published an IIT Strategic Plan (http://www.usg.edu/usgweb/iitsp, 2002) to "set realistic goals and stresses that the value of IIT lies in its ability to enable all aspects of learning in secure and innovative ways throughout the System to push beyond the current limitations of time, space, access, and resources" (pg. 4). The IIT Strategic Plan was developed "to ensure that System IIT resources such as instructional support, infrastructure, information systems, research support, information access, and support services are positioned to provide the greatest value in support of the System's strategic vision, mission and goals" (pg. 4). While the USG's plan suggests the development of measures and the evaluation of results, it was

unclear to institutions which group of measures should be incorporated in the institutional IIT plans, the measures employed by the USG's IIT strategic plan or the measures suggested by the ACIT Core planning group, or some combination of both.

A previous planning effort produced the ACIT Strategic Planning Project Recommendations (USG, 2001) which suggested measures include broad categories such as staffing, revenue and cost, IT structure, strategy and support, systems environment, control and security, services, IT policies and instructional support. These recommendations included a list of metrics that were "required to be maintained and reported by each institution within the System as a part of the annual strategic plan review and update. They were intended to provide a useful benchmarking basis among institutions with the USG" (http://www.usg.edu/usgweb/iitsp/links/acit_proj_rec.phtml). The IIT governance plan, Learning Without Limits (2002), provides no such guidelines. It was apparent from the strategic plans reviewed that elements of both documents (USG, 2001 and USG, 2002) were employed in the development of institutional IIT strategic plans encountered in this study. It was also clear that institutions utilized a variety of measures to benchmark, evaluate and assess the progress of planning, the attainment of goals, and the application of objectives for the IIT strategic planning process as applicable to each institutional vision, mission and strategic goals.

Reporting IIT strategic Planning to the BOR and the University System Office

The university system charged the Administrative Committee on Information Technology (ACIT) with the task of representing the information technology interests (both administrative and academic) for each member campus to the university system. The researcher reviewed the ACIT recommendations (USG, 2001) submitted to the BOR as well as the system's IIT Strategic

Plan, Learning Without Limits (2002) to determine the suggested process and procedures for submitting IIT plans to the central office. Implementation of the long-range plan was discussed in Appendix b of the 2002 document. However, the section addressing organization, policies and procedures was not complete at the time of this study. The researcher believes, when complete, this section will discuss actions to guide institutions in the submission of IIT strategic plans to the system office.

In addition, it was not clear from institutional plans whether submission of the IIT strategic plan was required by the USG. While the ACIT recommendations suggested the creation of a communication process to convey strategic initiatives between the institutions and the university system, a process for submitting IIT strategic plans was not discovered by the researcher. It is important to note that the researcher obtained IIT plans from institutional web sites because the plans were not currently available from the system office. Housing copies of the institutional IIT plans at the system office allows the university system to maintain awareness of recurring issues and assist in addressing issues of growing concern, at the institutional level.

Emergent Themes

The institutional strategic and IIT strategic plans provided an in-depth look at the organization of planning processes. The interviews provided the explanation for the structure and organization of the processes. From these data sources, the following themes recurred:

1. Identify planning structures in place – the issue of centralized versus decentralized planning remains unresolved. Institutions are expected to choose the most efficient planning structure that best fits the campus. Institutions could include documentation of the most appropriate structure, centralized or

decentralized, to provide the most efficient delivery of information to the USG via the institutional IIT strategic plans.

2. Evaluate current planning structures – CIOs participating in this study, welcomed the opportunity to demonstrate the progress of IIT strategic planning on their campus. With this in mind, the USG could investigate an incentive based planning symposium to recognize, reward and encourage the planning efforts of its member institutions.
3. The meaning of "model" – The term model is interpreted differently among institutions. This presents an opportunity for the USG to develop a common definition of the term and define elements of a common structure including flexibility valued at the institutional level. A centralized approach to the application of a model offers guidelines to institutions to create comparable processes.
4. IT funding – CIOs were curious about existing funding practices among system institutions. As a program facet for the symposium suggested in the second theme, the USG could identify best practices for funding IIT projects within the university system institutions. The incentive-based approach may also encourage innovative solutions at the institutional level.
5. Peer approaches to IIT planning – Interviews with the six (6) CIOs revealed a desire to gather information regarding practices at peer institutions. The USG could develop peer benchmarks for institutions of similar type, based on national exemplars, and recommend a technology assessment process to deliver data and information to the institutional planning process.

These five themes suggest ways in which the USG could provide guidance and encouragement toward innovation in the IIT strategic planning process while achieving alignment with USG goals and objectives. Alignment can be difficult to achieve and require an interconnected web of strategic leadership activities – IT strategic planning, IT governance, communications and measurement/assessment (Albrecht, Bender, Katz, Pirani, Salaway, Sitko and Voloudakis, 2004). Increased collaboration between the USG and institutions promotes greater success in the governance of IIT strategic planning.

Implications of results

The development of a model for IIT strategic planning should be based on observation driven recommendations. Institutions are hesitant to embrace a model that suggests "one size fits all". Individual institutional autonomy is critical to advancing institutional mission. Therefore, any model advanced should afford the flexibility to accommodate individual institutional characteristics (variables), while retaining elements critical to the effective management of technology throughout the USG. Calling upon the results of this study, the researcher will venture to suggest a model for consideration. This proposed model pulls together existing elements in a framework that incorporates incentives and feedback. The proposed model incorporates the following:

A. Organization of the IIT strategic planning model – the proposed model suggests a specific format and organization of a resulting annual report. The three main structures of the model are the plan, the process and alignment. The elements of each structure can be summarized as follows:

1. Elements of the IIT Plan – results of the study revealed that institutional IIT strategic plans reflected elements from the ACIT IIT Strategic Planning Project Recommendations (USG, 2001). The seven elements recommended by the ACIT Core Group should be incorporated in the proposed model because of their adoption by the CIOs, who are members of the ACIT group. The elements are: process flow, timing, participation, strategic planning tools, guidelines, metrics and outstanding issues.

2. The IIT Planning Process – the proposed model suggests an IIT planning process and cycle. The researcher recommends the planning process detailed on page twenty-one of the Learning Without Limits document (USG, 2002). See Appendix G for the USG IIT Planning Process. The process should facilitate conducting an environmental analysis; developing, revising and aligning the strategic plan to institutional goals and objectives; integrating IIT planning with campus strategic planning process, developing tactics and measures as suggested by the ACIT IIT Strategic Planning Project Recommendations; and implementing, monitoring, evaluating and adjusting the IIT plan as needed annually. This proposed model would allow institutions to include unique details and factors that influence the planning process and cycle on the campus. These factors may include mission, enrollment, environment, resources and need.

3. The Alignment Issue – alignment of institutional IIT strategic plans with the USG IIT strategic planning guidelines should be a requirement. This proposed model suggests alignment of institutional goals and objectives incorporated in the IIT strategic plan with the goals and objectives of the USG's IIT strategic plan as a requirement. Enforcing a requirement suggests institutional accountability and reward. Rewards may

include recognition at an annual USG IIT strategic planning symposium and monetary incentives. This model allows each institution to construct a campus IIT planning process that best suites the needs of the institution without a prescription from the USG. However, the process should be designed such that the results of the process meet the reporting requirements from the USG, to support alignment.

B. Creating and conveying the IIT strategic planning story is vital to the alignment process. Institutions should create an Annual Institutional Report on IIT Strategic Planning, which includes the elements of the plan as proposed by this model. This annual IIT strategic planning report should be submitted to the Assistant Vice Chancellor for Information Technology at the university system office. The Assistant Vice Chancellor would then evaluate the report for comparative alignment and provide feedback to institutions. In addition, as prescribed by the ACIT IIT strategic planning project recommendations (USG, 2001), a three-year IIT strategic plan should be submitted to the Office of Strategic Research and Analysis in partial fulfillment of the alignment requirement.

This proposed model suggests the inclusion of a historical overview of institutional planning in the proposed Annual Institutional Report on IIT Strategic Planning. This historical overview could provide a persistent representation of IIT strategic planning that minimizes the environmental acclimation period for newly hired staff and personnel. The historical overview should convey the history of institutional planning to the USG, and should promote a sense of continuation of prior institutional effort. Promoting alignment suggests reporting the results of evaluations based on metrics incorporated in the IIT plan, to the system office for feedback. The results of evaluations should be included in the annual report. Conveying the results of the evaluation of progress presumes an ongoing assessment process. The proposed model

encourages the implementation of continuous longitudinal assessment exercises. An institutional IIT strategic planning template could be developed by the USG to assist institutions and facilitate the adoption of this model.

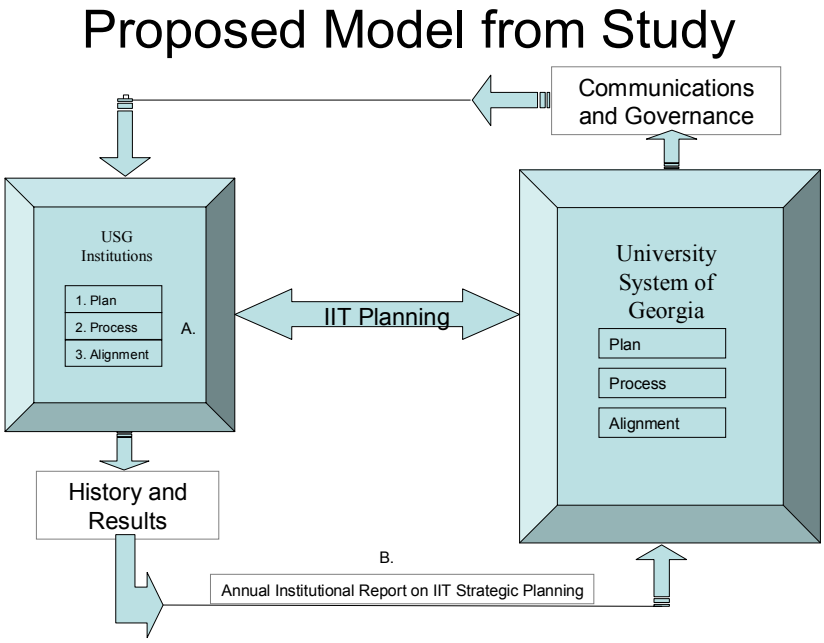


Figure 4. Proposed Model from Results of the Study

As a follow up to this study, further research could determine the feasibility of implementing the proposed model in the USG. This would require a review of the existing elements and a needs assessment from the institutional and the system levels. This is but one suggestion for follow-up.

Suggested areas for further research

This study explored the alignment of IIT planning at the institutional level with the guidelines of the governing University System of Georgia. A snapshot was taken of the process

of IIT strategic planning activities at the institutional and university system level. The researcher uncovered the elements of a proposed IIT strategic planning model within the documents utilized in this study. The implementation of an IIT strategic planning model for a university system is an area for further in-depth research, which was outside of the scope of this study.

Recent research on IIT alignment has focused on aligning the goals and objectives of the IIT planning process with the goals and objectives of the institutional mission. One such study is the recent ECAR (EDUCAUSE Center for Applied Research) publication on Information Technology Alignment in Higher Education (Albrecht, Bender, Katz, Pirani, Salaway, Sitko, and Voloudakis, 2004). The ECAR study differs from this study in the method of comparative analysis. The ECAR study compares the alignment of the goals and objectives of the IIT planning process with the goals and objectives of the institutional mission. The researcher compares the alignment of IIT planning at the institutional level with the guidelines of the governing university system, in her study. The arena of IIT strategic planning is growing rapidly. Associations like EDUCAUSE lead the way in providing salient research on information technology topics.

This study reported on the status of progressive or incremental alignment of institutional IIT strategic planning practices with comprehensive governing policies of the USG. From this study, several topics emerged which are worthy of further research. Topics include:

1. Institutional economic differentiation and preparation for IIT strategic planning;
2. The politics of decision-making in IIT strategic planning;
3. Administrative expertise development in IIT strategic planning;
4. The impact of institutional size on the status of planning; and,

5. The structural, organizational, financial, operational and political fundamentals of IIT strategic planning.

Each of these topics could benefit from in-depth investigation. While this study sought to contribute to the body of research on IIT strategic planning, there is room for a peer-reviewed journal specific to IIT planning to attract manuscripts and serve as a repository for the growing field of scholarly research on this topic. The researcher anticipates significant growth in research of IIT planning because it is a comprehensive, consensus-driven, forward-thinking process organized by institutional resources, mission, and goals and defined by a governing body (Fleit, 1997).

REFERENCES

Albrecht, B., Bender, B., Katz, R. N., Pirani, J. A., Salaway, G., Sitko, T. D., and Voloudakis, J. (2004). Information Technology Alignment in Higher Education. EDUCAUSE Center for Applied Research, volume 3, 2004.

Altbach, P. G., Berdahl, R. O., & Gumport, P. J. (1999). American higher education in the twenty-first century: Social, political and economic challenges. Baltimore: Johns Hopkins University.

Astin, A. W. (1993). Assessment for Excellence. American Council on Education Series on Higher Education. Oryx Press.

Barker, B. O. and Hall, R. F. (1996). Long Term Technology Planning: Laying the Foundation To Improve Illinois Schools. Illinois Institute for Rural Affairs, Western Illinois University, Macomb: Illinois.

Baule, S. M. (2001). Technology Planning for effective teaching and learning. Worthington, Ohio: Linworth Publishers.

Beaumaster, S. (1999). Information technology (it) implementation issues: An analysis. Unpublished doctoral dissertation, Virginia Polytechnic Institute and State University. URN: Etd-042399-053715.

Below, P. J., Morrisey, G. L., and Acomb, B. L. (1987). The executive guide to strategic planning. San Francisco: Jossey-Bass.

Boettcher, J. V., Doyle, M. M. and Jensen, R. W. (2000). Technology Driven Planning: Principles to Practice. Society for College and University Planning: Ann Arbor.

Carr, S. (2000). Bob Jones U. offers its controversial curriculum to high-school students online. The Chronicle of Higher Education/Information Technology. March 10.

Carnevale, D. & Young, J. R. (1999). Who owns on-line courses? Colleges and professors start to sort it out. The Chronicle of Higher Education/Information Technology. December 17.

Cavalier, J. (2002). The Forgotten Question in IT Strategic Planning. The Journal of the Society for College and University Planning, 31 (1). September – November 2002.

Chan, S. (1996). Planning for Information Technology. In B. P. Nedwek (Ed.), Doing Academic Planning: Effective Tools for Decision Making. Society for College and University Planning.

Crawford, Rudy, et al (2003). Fourth Annual EDUCAUSE Survey Identifies Current IT Issues. EDUCAUSE Quarterly, number 2, 2003.

Dolence, M. G. and Norris, D. M. (1995). Transforming Higher Education: A vision for Learning in the 21st Century. Society for College and University Planning.

Dowie, S. (2002). Grappling with Strategic Dissonance. Planning for Higher Education. 31 (1), 30-38, September-November 2002. Society for College and University Planning.

Duderstadt, J. J. (2000). A choice of transformations for the 21st-century university. The Chronicle of Higher Education/Opinion & Arts, February 4.

Farrington, G. C. (1999). The new Technologies and the Future of Residential Undergraduate Education. In R. N. Katz (Ed.), Dancing with the devil: Information and the new competition in higher education. EDUCAUSE, Jossey-Bass: San Francisco.

Fitz-Gibbon, C. T. (Ed.). (1990). Performance Indicators. Philadelphia: Multilingual Matters Ltd.

Fleit, L. H. (1996). Institutional Information Technology Resource Assessment. In B. P. Nedwek Ed.), Doing Academic Planning: Effective Tools for Decision Making. Society for College and University Planning.

Gaff, J.G & Ratcliff, J.L. (1996). Handbook of the undergraduate curriculum: A comprehensive guide to purposes, structures, practices and change. San Francisco: Jossey-Bass.

Gaither, G. H. (Ed.). (1995). Assessing Performance in an Age of Accountability: Case Studies. New Directions in Higher Education, 23 (3). San Francisco: Jossey-Bass Publishers.

Gaither, G. H., Nedwek, B. P. and Neal, J. E. (1994). Measuring Up: The Promises and Pitfalls of Performance Indicators in Higher Education. ASHE-ERIC Higher Education Report, no. 5, 1994.

Graves, W. H. (1999). Developing and Using Technology as a Strategic Asset. In R. N. Katz (Ed.), Dancing with the devil: Information and the new competition in higher education. EDUCAUSE, Jossey-Bass: San Francisco

Green, K. C. (1999). When wishes come true: Colleges and the convergence of access, lifelong learning and technology. Change. March/April.

Hopey, C. E. and Harvey-Morgan, J. (1995). Technology planning in adult literacy (Practice Guide No. PG95-02). Philadelphia: University of Pennsylvania, National Center on Adult Literacy.

Katz, R. N., et al. (1999). Dancing with the devil: Information technology and the new competition in higher education. EDUCAUSE, Jossey-Bass: San Francisco.

Kobulnicky, P. J. (1999). Critical Factors in Information Technology Planning for the Academy. Cause/Effect, 22 (2).

Leedy, P. D., and Ormrod, J. E. (2001). Practical Research: Planning and Design. Prentice Hall. Upper Saddle River: New Jersey.

Leibowitz, W. R. (1999). Technology transforms writing and the teaching of writing. The Chronicle of Higher Education/Information Technology, November 26.

Lick, D. W., and Kaufman, R. (2001). Change Creation: The Rest of the Planning Story. Planning for Higher Education. 29 (2), 24-36. Society for College and University Planning.

Light, R. J., Singer, J. D., and Willet, J. B. (1990). By Design: Planning Research on Higher Education. Harvard University Press. Cambridge: Massachusetts.

McCredie, J. W. (2000). Planning for IT in Higher Education: It's not an Oxymoron. EDUCAUSE Quarterly, number 4, 2000.

Michalak, S. C., Facelli, J. C., & Drew, C. J. (1999). Decentralized information technology requires central coordination! Cause/Effect, 22 (4).

Moore, J. W. (2001). Planning, Politics and Presidential Leadership. Planning for Higher Education. Society for College and University Planning.

Morris, L. V. (notes from EDHI 8600 course, Assessment in Higher Education, Spring 2002).

NCRTEC (2002). http://www.ncrtec.org/capacity/guidewww/basic.htm.

Norris, D. M., and Poulton, N. L. (1991). A Guide for New Planners. Society for College and University Planning. University of Michigan, Ann Arbor: Michigan.

Norris, D. M. (1997). Revolutionary Strategy for the Knowledge Age. Society for College and University Planning. University of Michigan, Ann Arbor: Michigan.

Olsen, F. (2000). Institute for women and technology works to bridge computing's gender gap. The Chronicle of Higher Education/Information Technology, February 25.

Penrod, J. I., Dolence, M. G. and Douglas, J. V. (1990). The Chief Information Officer in Higher Education. Cause Professional Paper Series, #4.

Rockwell, S. K., Schauer, J., Fritz, S. M., & Marx, D. B. (1997). Incentives and obstacles influencing higher education faculty and administrators to teach via distance. Agricultural research division, Journal series no. 12589. University of Nebraska.

Selwyn, N. (2000). Resisting the technological imperative: Issues in researching the 'effectiveness' of technology in education. http://computed.coe.wayne.edu/Vol5/Selvyns.html

Senge, P., Kleiner, A., Roberts, C., Ross, R., and Smith, B. (1994). The Fifth Discipline Fieldbook: Strategies and Tools for Building a Learning Organization. Doubleday, New York: New York.

Stark, J. S. & Lattuca, L. R. (1996). Shaping the college curriculum: Academic plans in action. Needham Heights, Massachusetts: Allyn & Bacon.

Shirley, R. C. (1988). Strategic planning: An overview. New Directions for Higher Education, 16(4), 5-14.

Soy, S. K. (2003). The Case Study as a Research Method. http://www.gslis.utexas.edu/~soy/usesusers/l391dlb.htm .

Trellis, W. (1997). Introduction to Case Study. The Qualitative Report, 3 (2), July 1997.

Turner, P. (2001). Surviving the digital revolution. Planning for Higher Education, 29(3), 12–18.

University System of Georgia. (2001). ACIT Strategic Planning Project: Additional Resources: ACIT Recommendations. http://www.usg.edu/usgweb/iitsp/links/acit_proj_rec.phtml.

University System of Georgia. (2002). Institutional Strategic Planning Guidelines. Internal Policy Document. http://www.usg.edu/sra/gen_info/planning/strategic_plan_guide.phtml.

University System of Georgia. (2002). Learning Without Limits: IIT Strategic Plan. http://www.usg.edu/usgweb/iitsp/documents/docs/Learning_Without_Limits_4_1_02.pdf

University System of Georgia. (2004). http://www.usg.edu/admin/regents.html

Ward, D. (2000). Catching the waves of change in American higher education. EDUCAUSE Review. January/February.

Yin, R. (1994). Case Study Research: Design and Methods. Newbury Park, CA: Sage.

APPENDICES

APPENDIX A

ALPHABETIZED LIST OF THE ALL THE INSTITUTIONS IN THE UNIVERSTY SYSTEM, THEIR USG CLASSICIFICATION AND THEIR ASSIGNED TYPE

Name of Institution	Current Classification	Classification Type
Abraham Baldwin Agricultural College	Two Year College	V
Albany State University	State University	III
Atlanta Metropolitan College	Two Year College	V
Augusta State University	State University	III
Armstrong Atlantic State University	State University	III
Bainbridge College	Two Year College	V
Clayton College & State University	State University	III
Coastal Georgia Community College	Two Year College	V
Columbus State University	State University	III
Dalton State College	State College	IV
Darton College	Two Year College	V
East Georgia College	Two Year College	V
Floyd College	Two Year College	V
Fort Valley State University	State University	III
Gainesville College	Two Year College	V
Georgia College & State University	State University	III
Georgia Institute of Technology	Research University	I
Georgia Perimeter College	Two Year College	V
Georgia Southern University	Regional University	II
Georgia Southwestern State University	State University	III
Georgia State University	Research University	I
Gordon College	Two Year College	V

Name of Institution	Current Classification	Classification Type
Kennesaw State University	State University	III
Macon State College	State College	IV
Medical College of Georgia	Research University	I
Middle Georgia College	Two Year College	V
North Georgia College & State University	State University	III
Savannah State University	State University	III
Southern Polytechnic State University	State University	III
South Georgia College	Two Year College	V
State University of West Georgia	State University	III
University of Georgia	Research University	I
Valdosta State University	Regional University	II
Waycross College	Two Year College	V

APPENDIX B

E-MAIL/LETTER REQUESTING PARTICIPATION IN THE STUDY

Dear Information Technology Officer:

You have been identified by the Board of Regents' Office of Information and Instructional Technology as having significant expertise in the area of instructional and information technology planning at your institution. I would like to invite you to serve as a participant in my dissertation study to examine the status of technology planning in the University System of Georgia.

The purpose of this study is to explore strategic planning for information and instructional technology in the thirty-four member University System of Georgia. The study will examine the current status of planning, identify critical issues in the planning process and identify effective policies and practices. The identity of institutions will be concealed and data will be reported according to institution type (Research University, Regional University, State University, State College and Two-Year College). Participants in this study will be identified by their position only, in order to assure confidentiality. The researcher is the only person who will have individually identifiable information.

If you agree to participate in this study, a short questionnaire will be sent to you via email. Participation will entail a response to a series of questions about the technology planning activities underway at your institution. Please indicate your intention to participate by responding to the brief questions below.

Please place a check mark next to one of the options below and return the document via email* to kawebb@uga.edu or by fax to (706) 542-8788:

_____ I agree to participate in your study

_____ I am unable to participate in your study at this time, but will refer you to a colleague with expertise in this area.

_____

Colleague's Full Name Phone Number email address

_____ I decline your request to participate in this study.

Thank you for your response to this request.

Karen A. Webb
Institute of Higher Education
University if Georgia
(706) 542-0611

*Please note: Internet communications are insecure and there is a limit to the confidentiality that can be guaranteed due to the technology itself. However, once the completed email is received by the researcher standard confidentiality procedures will be employed.

APPENDIX C

CONSENT FORM

I, _____, agree to participate in the research study
(Please Print Full Name Here)

entitled "Aligning Policy and Practice: Information and Instructional Technology Planning in the University System of Georgia". This study is being conducted by Karen A. Webb, Doctoral Student in the Institute of Higher Education (706-542-0611) under the direction of Dr. Libby V. Morris, Associate Professor of Higher Education in the Institute of Higher Education at the University of Georgia (706-542-3464).

I agree to participate in this study with the understanding that:

- I will not benefit directly from this research. However, my participation may lead to information that could assist institutions in improving the technology planning activities.
- I understand the participation is voluntary and I may withdraw at any time without penalty.
- I will be asked to respond to a series of questions which may be delivered to me, according to my schedule, by email, telephone (which will be audio taped) or by mail.
- I have the right to request and review my responses within a week after submission.
- No risks, discomforts and stresses are expected.
- The results of this study will be presented publicly with masks applied to the identity of participants and their respective institutions. All audio tapes will be destroyed no later than August 2005. The researcher is the only person who will have individually identifiable information.

I understand the procedures described above and my questions have been answered to my satisfaction. My signature below indicates my consent to participate in this study.

_____		_____	
Signature of Participant	Date	Signature of Researcher	Date

For questions about this study, please call write:

Karen A. Webb, 212 Terrell Hall, University of Georgia, Athens, GA 30602; kawebb@uga.edu; (706) 542-0611 or Dr. Libby V. Morris, Institute of Higher Education, 210 Meigs Hall, University of Georgia, Athens, 30602; lvmorris@uga.edu; (706) 542-3464.

Additional questions or problems regarding your rights as a research participant should be addressed to Dr. Chris A. Joseph, Ph.D., Human Subjects Office, University of Georgia, 612 Boyd Graduate Studies Research Center, Athens, GA 30602-7411; Telephone (706) 542-3199; Email Address IRB@uga.edu;

APPENDIX D

INTERVIEW PROTOCOL

QUESTIONS DERIVED FROM PLANNING DATA REGARDING THE STATUS OF INSTITUTIONAL TECHNOLOGY PLANNING EFFORTS

6. Is there a designated person responsible for IIT strategic planning?
Probe – what is that title of the person responsible for coordinating the IIT strategic planning process on your campus?

2. Is the CIO or CTO a member of the institution's strategic planning committee?
Probe – Do you have a designated Chief Information Officer?
Probe – If not, is the title of the position responsible for coordinating all campus technology activities called the Chief Technology Officer?

3. What is the organizational structure at your institutions for ensuring that IIT strategic plans are completed?
Probe - What can you tell me about the specific planning process (or processes) and the steps to adoption of this process?
Probe - Does the planning process include reviews, meetings, committees, funding, travel, reports, staff, leadership hierarchy or delineated reporting lines such as evident in organizational charts?
Probe - Are there auxiliary documents resulting from processes such as accreditation reviews, assessment exercises/activities or periodic meetings with the President and other key administrators?

4. Where do IIT plans originate and how are they routed?
Probe - Who is responsible for preparing the reports and to which individual or office at the BOR/USG are they submitted?
Probe – Does your President or the Provost receive a copy of the completed plan?
Probe - Are these reports routinely submitted to the BOR or in response to BOR requests?

5. What is the priority assigned to IIT planning?

   Probe – Is the President involved in convening the IIT planning committee?

   Probe – Does the President or the Provost request a copy of the completed plan?

6. What is the working relationship between the person responsible for strategic planning and the CIO or CTO?

   Probe – How do the persons in these positions work together?

   Probe – Do they collaborate on similar projects?

7. What are some of the major issues that affect planning at your institution?

   Probe – What can you tell me about the history of planning at your institution?

   Probe – What issues are of concern?

8. Have there been challenges in developing the IIT plan?

   Probe – What are some of concerns encountered in developing the IIT plan?

   Probe – Are these recent or continuing concerns?

9. Have they been resolved?

   Probe – Which concerns have been addressed and which remain?

10. Is there planning underway? If yes, what is the current status/phase?

    Probe – Are planning activities currently underway at your institution?

    Probe – Have you recently (in the academic year) begun planning activities?

    Probe – What phase of planning would you say that institution is currently engaged?

11. In your opinion, what are the next steps that follow the IIT plan development?

    Probe – What tasks/activities/actions should be taken on your campus next?

APPENDIX E

UNIVERSITY SYSTEM OF GEORGIA INSTITUTIONS BY TYPE AND FINDINGS FROM THE CAMPUS COMPUTING SURVEY

Institution Type	Findings from Review of Institutional Strategic Plans	IT Strategic Plan?	Integrated in Institutional Strategic Plan?	Integrated in USG Technology Strategic Plan?
I	November 2002 Update of Strategic Plan Web Version only No reference to a separate IIT Plan Does not include update on IT planning requested in October memo from the Chancellor No mention of IT/IIT Planning.	• Yes	• Yes	• Yes
I	2000-2005 Strategic Plan Web version only Reference to a separate IIT Plan Does not include update on IT planning requested in October memo from the Chancellor Mentions IT/IIT Planning on pp. 5 & 8.	• Yes	• Yes	• Don't Know
I	No plan.	• No	• No Response	• No Response
I	2000-2010 Strategic Plan No reference to a separate IIT Plan Does not include update on IT planning requested in October memo from the Chancellor No mention of IT/IIT Planning.	• Yes	• Yes	• Yes
II	December 1997 Guiding Principles for Strategic Planning Reference to a separate IIT Plan on pg. 12. Does not include update on IT planning requested in October memo from the Chancellor No mention of IT/IIT Planning process.	• Yes	• Yes	• No
II	Web page indicating location of plan only 2002-2003 Strategic Planning period No reference to a separate IIT Plan Does not include update on IT planning requested in October memo from the Chancellor No mention of IT/IIT Planning.	• Yes	• Yes	• Don't Know
III	1997-1999 Strategic Plan No reference to a separate IIT Plan Does not include update on IT planning requested in October memo from the Chancellor Mentions IT/IIT Planning on pp. 53, 60, 69, 72.	• Yes	• Yes	• Yes
III	Unspecified period of Strategic Plan coverage No reference to a separate IIT Plan Does not include update on IT planning requested in October memo from the Chancellor Mention of IT/IIT Planning on last page.	• Yes	• Yes	• Don't Know

Institution Type	Findings from Review of Institutional Strategic Plans	IT Strategic Plan?	Integrated in Institutional Strategic Plan?	Integrated in USG Technology Strategic Plan?
III	2002-2004 Strategic Plan Web version only No reference to a separate IIT Plan Does not include update on IT planning requested in October memo from the Chancellor No mention of IT/IIT Planning in general.	• No	• No Plan	• No Plan
III	2002 Strategic Plan Update for the Division of Academic Affairs only No reference to a separate IIT Plan Does not include update on IT planning requested in October memo from the Chancellor No mention of IT/IIT Planning in general.	• Yes	• Yes	• Don't Know
III	2000-2005 Strategic Planning Goals Web version only No reference to a separate IIT Plan Does not include update on IT planning requested in October memo from the Chancellor Mentions need for IT/IIT Planning on pg.4	• Yes	• Yes	• Yes
III	2002-2007 Strategic Plan No reference to a separate IIT Plan Does not include update on IT planning requested in October memo from the Chancellor No mention of IT/IIT Planning.	• No Response	• No Response	• No Response
III	1999-2004 Strategic Plan No reference to a separate IIT Plan Does not include update on IT planning requested in October memo from the Chancellor No mention of IT/IIT Planning.	• Yes	• Yes	• Yes
III	2002-2007 Strategic Plan No reference to a separate IIT Plan Does not include update on IT planning requested in October memo from the Chancellor No mention of IT/IIT Planning.	• Yes	• Yes	• Yes
III	Partial 1997 Update, only 4 pages No reference to a separate IIT Plan Does not include update on IT planning requested in October memo from the Chancellor No mention of IT/IIT Planning.	• Yes	• Yes	• Yes
III	1998 Strategic Plan by Sasaki Associates, 7 pages No reference to a separate IIT Plan Does not include update on IT planning requested in October memo from the Chancellor No mention of IT/IIT Planning.	• Yes	• Yes	• Yes
III	2002-2007 Strategic Plan No reference to a separate IIT Plan Does not include update on IT planning requested in October memo from the Chancellor No mention of IT/IIT Planning.	• Yes	• Yes	• Yes

Institution Type	Findings from Review of Institutional Strategic Plans	IT Strategic Plan?	Integrated in Institutional Strategic Plan?	Integrated in USG Technology Strategic Plan?
III	2002 Strategic Plan in SWOT Analysis format No reference to a separate IIT Plan Does not include update on IT planning requested in October memo from the Chancellor No mention of IT/IIT Planning.	• Yes	• Yes	• Yes
III	Strategic Plan for 2000 and beyond No reference to a separate IIT Plan Does not include update on IT planning requested in October memo from the Chancellor No mention of IT/IIT Planning.	• Yes	• Yes	• Yes
IV	2000-2003 Partial Strategic Plan only No reference to a separate IIT Plan Does not include update on IT planning requested in October memo from the Chancellor Mentions need to develop IT/IIT Plan on pg. 82	• Yes	• Yes	• Don't Know
IV	2000-2005 Strategic Plan No reference to a separate IIT Plan Does not include update on IT planning requested in October memo from the Chancellor Mentions IT/IIT Planning on pp. 5 & 13.	• No Response	• No Response	• No Response
V	1996-97 Draft Strategic Plan only No reference to a separate IIT Plan Does not include update on IT planning requested in October memo from the Chancellor Mentions IT/IIT Planning on pp. 2,14,15.	• No	• Yes	• No Response
V	1999-2002 Strategic Plan No reference to a separate IIT Plan Does not include update on IT planning requested in October memo from the Chancellor No mention of IT/IIT Planning in general.	• Yes	• Yes	• Yes
V	FY 2000 Strategic Plan No reference to a separate IIT Plan Does not include update on IT planning requested in October memo from the Chancellor No mention of IT/IIT Planning in general.	• Yes	• No	• No
V	2002-2007 Strategic Plan No reference to a separate IIT Plan Does not include update on IT planning requested in October memo from the Chancellor No mention of IT/IIT Planning in general.	• Yes	• Yes	• Yes
V	2003-2004 Strategic Plan Summary only. Revised Plan not approved by University Executive Council No reference to a separate IIT Plan Does not include update on IT planning requested in October memo from the Chancellor No mention of IT/IIT Planning.	• Yes	• Yes	• Yes

Institution Type	Findings from Review of Institutional Strategic Plans	IT Strategic Plan?	Integrated in Institutional Strategic Plan?	Integrated in USG Technology Strategic Plan?
V	1999 Strategic Plan No reference to a separate IIT Plan Does not include update on IT planning requested in October memo from the Chancellor No mention of IT/IIT Planning.	• Yes	• Yes	• Yes
V	2003-2006 Strategic Plan Reference to a separate IIT Plan. IIT Plan not included in Strategic Plan Does not include update on IT planning requested in October memo from the Chancellor No mention of IT/IIT Planning.	• Yes	• Yes	• Yes
V	1997 Strategic Plan No reference to a separate IIT Plan Does not include update on IT planning requested in October memo from the Chancellor No mention of IT/IIT Planning.	• No	• No Plan	• No Plan
V	2001-2003 Strategic Plan No reference to a separate IIT Plan Does not include update on IT planning requested in October memo from the Chancellor Mentions IT/IIT Planning on pp. 16 &17.	• No	• No Plan	• No Plan
V	2003-2008 Strategic Plan No reference to a separate IIT Plan Does not include update on IT planning requested in October memo from the Chancellor No mention of IT/IIT Planning.	• Yes	• Yes	• Don't Know
V	February 2000 Addendum to Strategic Plan only No reference to a separate IIT Plan Does not include update on IT planning requested in October memo from the Chancellor No mention of IT/IIT Planning.	• Yes	• Yes	• No
V	1997 Revised Plan No reference to a separate IIT Plan Does not include update on IT planning requested in October memo from the Chancellor Mention IT/IIT Planning Committee on pg. 19.	• No Response	• No Response	• No Response
V	2002-03 Strategic Planning & Assessment Guide No reference to a separate IIT Plan Does not include update on IT planning requested in October memo from the Chancellor No mention of IT/IIT Planning.	• Yes	• Yes	• Yes

APPENDIX F

IN-PERSON, TELEPHONE INTERVIEW AND EMAIL QUESTIONNAIRE
COMPREHENSIVE RESPONSES FROM INSTITUTIONAL REPRESENTATIVES

Questions to Institutional Representatives	Classification Type I (n=2)	Classification Type II (n=1)	Classification Type III (n=8)	Classification Type IV (n=1)	Classification Type V (n= 3)
Is there a designated person responsible for IIT Strategic Planning? P/NP	• Yes – the CIO (the office of the CIO or his/her designee).	• Yes – the CIO (the office of the CIO or his/her designee).	• Yes – the CIO (the office of the CIO or his/her designee). • No.	• Yes – the CIO (the office of the CIO or his/her designee).	• Yes – the CTO (the office of the CTO or his/her designee). • Yes – the CIO (the office of the CIO or his/her designee).
Is the CIO or CTO a member of the institution's Strategic Planning committee? P/NP	• Yes • No	• No.	• Yes. • Yes, but someone from the office has been appointed to serve in my place. He/she reports directly to me. • Not sure.	• Yes.	• No, but someone from the unit is typically. • No, not currently. • Yes.
What is the organizational structure at your institution for ensuring that strategic IIT plans are completed? P/NP	• Strategic IIT Planning Committee. • The Office of Institutional Effectiveness ensures that IIT is addressed and included in the campus Strategic Plan.	• While there is no formal structure, the strategic planning committee is tasked with harnessing information to update the existing IT plan.	• The President will appoint a committee to oversee the completion of campus plan. • Currently the President requests the IIT strategic plan. • No formal structure, but the presence of the CIO on various campus committees and on the President's cabinet facilitates raising IT issues. • IIT strategic plans are developed in coordination with the Information Technology Advisory committee. • The CIO collects information for the IIT strategic plan from all technology managers on campus and key user groups. • The Technology Planning Committee ensures its completion. • No formal structure.	• A series of strategic planning meetings are held with a group that includes students, faculty and staff. • All units to submit their component of the institutional Strategic Plan use "Plan Builder".	• The Director of Institutional Research and Planning coordinates the preparation of the institutional strategic plan with all units. • The CIO is responsible for submitting the IIT Strategic Plan to the Strategic Planning Committee.

Questions to Institutional Representatives	Classification Type I (n=2)	Classification Type II (n=1)	Classification Type III (n=8)	Classification Type IV (n=1)	Classification Type V (n= 3)
Where do IIT plans originate and how are they routed? P/NP	• The office of the CIO submits the plan to the Executive Director for Organizational Development and to the Strategic Planning Committee. • The Office of the CIO submits the plan to the Office of Institutional Effectiveness for inclusion in the campus Strategic Plan. • Individual academic units submit plans to College Deans who forward the plans to the central campus coordinating unit/body.	• Pilot project to conduct an annual IIT planning process to prepare and submit a list of IIT priorities to the President fro funding. • Individual academic units submit plans to College Deans who forward the plans to the central campus coordinating unit/body.	• The Technology Advisory/Administrative Committee submits the draft IIT strategic plan from the CIO to the University Services Committee who then forwards the plan to the University Senate. Then it is forwarded to the President, on to the Executive Cabinet and then back to the CIO. • The CIO forwards the IIT strategic plan to the VP for the unit as well as to the President for dissemination the Executive cabinet. • The CIO disseminates the IIT strategic plan to the directors in the IT unit. •The Office of the Vice President for Academic Affairs coordinates the collection of information for the overall campus strategic plan. • The CIO submits the IIT strategic plan to the Technology Planning Committee/IT Advisory Committee. • IIT plans originate from the individual units on campus to the Vice Presidents of each unit and then on to the President's Cabinet. • A copy of the IIT Strategic Plan is sent to the Vice President for Academic Affairs.	• The office of the CIO submits the Technology Master Plan to the President and Vice President for Enrollment and Student Services. • The office of the CIO submits the IT component of the strategic plan. • The annual report for the IT division is submitted to the President.	• The CTO submits the information to the Director of IRP. IIT strategic initiatives are included in the overall campus Strategic Plan. • IIT Plans are submitted from the CIO to the Strategic Planning Committee and then on to the President's cabinet for approval. • The IIT Plan is generated by the CIO and submitted to the Technology Master Planning Committee.
What is the priority assigned to IIT Planning? NP	• Clear need for IIT Strategic planning and has been well recognized by the central administration.	• Question not applicable.	• High, but not higher than other critical areas. • Low.	• Question not applicable.	• Increased over the last several years to a cabinet level priority.

Questions to Institutional Representatives	Classification Type I (n=2)	Classification Type II (n=1)	Classification Type III (n=8)	Classification Type IV (n=1)	Classification Type V (n= 3)
What is the working relationship between the person responsible for Strategic Planning and the Chief Information Officer or the Chief Technology Officer? P/NP	• Excellent, Collegial and collaborative. • Separate duties, similar titles, collaborative decision-making practiced.	• No formal working relationship except on occasion when information is needed by the CIO or the Strategic planning committee.	• It is in the process of changing, but we work as a collaborative team. • We are equal members on the President's cabinet. • The CIO provides information for the Vice President for Academic Affairs' strategic planning exercises. • They are one and the same person. • There is no one responsible for strategic planning, but we have a good working relationship with everyone on the management team. • We have an informal relationship.	• Collegial, collaborative and responsive.	• Comparable positions, reporting line to the President, collaboration on a number of projects. • Titles include Director of Institutional Research and Director of Institutional Effectiveness. • Both Directors are members of the Technology Master Planning Committee.
What are some of the major issues that affect IIT Planning at your institution? NP	• Decentralized nature of the institution.	• Question not applicable.	• Assuring that the IIT plan accurately reflects the It service/support needs on campus. • Budget • Identification and keeping up with trends. • The user community. • There is a general lack of understanding of the need for IIT Planning.	• Question not applicable.	• Decentralized nature of the institution. • Resources to implement the plan.

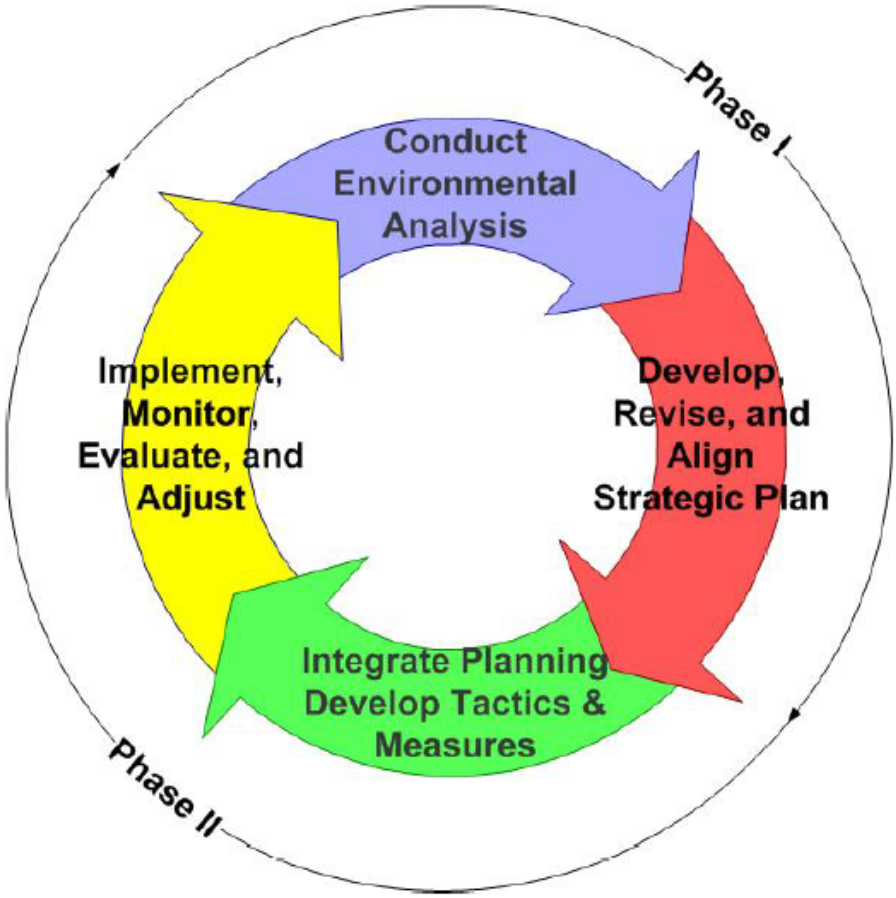
Questions to Institutional Representatives	Classification Type I (n=2)	Classification Type II (n=1)	Classification Type III (n=8)	Classification Type IV (n=1)	Classification Type V (n= 3)
Have there been challenges in developing the IIT plan? P/NP	• Challenges are ahead. • Not having an IIT plan presents a challenge. • Getting a decentralized organization to collaborate. • Yes, absolutely. • Challenges often result from the campus environment/issues on campus.	• Yes, finding time to move the plan forward. • Funding to implement the IT plan.	• Yes. • Realignment of IT staff with new campus vision and organizational structure. • Decentralized nature of the institution, though it is now 70% centralized. • Gaining buy-in to the "big-picture". • Security policy compliance. • Keeping the plan current. • Gathering input on a timely basis from the broader constituency. • Consensus building and constant complaints. • Same as the major issues.	• No.	• Yes. • Decentralized nature of the institution. • Resources. • No, not really.
Have they been resolved? P/NP	• No, not yet. • Resolutions are/must be continuous and on going. • Progress made, but few issues have been completely resolved. • Resolution requires a set of acceptable practices, a series of negotiations, communications and coordination.	• No, not yet.	• No. • No, Security issues such as identity theft are ongoing. • No, Maintaining adequate resources to meet demand. • Coming to one vision is well on the way to resolution. • Staffing issues are being addressed. • Alignment of decentralized functions under on IT umbrella has not been resolved. • Not sure.	• There are no challenges, therefore none to resolve.	• Yes. • Resolutions are in process. • There are no challenges, therefore none to resolve.
Is there planning underway? If yes, what is the current status/phase? NP	• Yes, IIT planning is underway. • The campus strategic planning process is just getting underway. • We are at a pre-planning stage.	• Question not applicable.	•No. • yes, in the initial phase.	• Question not applicable.	• Yes, infused with the overall campus strategic planning.

Questions to Institutional Representatives	Classification Type I (n=2)	Classification Type II (n=1)	Classification Type III (n=8)	Classification Type IV (n=1)	Classification Type V (n= 3)
In your opinion, what are the next steps that follow the IIT plan development? P/NP	• Realize that campuses create a living document in an IIT plan. • Continuously convey the competitive advantage that can be realized because of IIT tools to the senior administration.	• Put the plan into practice. • Accurately assessing and reassessing IT needs. • Identifying funding sources. • Keeping the plan updated. • Assessing and benchmarking improvements.	• Educating the university on the need for planning, what is in the current plan and why. • Ongoing revision and communications about the IIT plan (where we are, what we are doing) and how it will affect other units. •Gaining buy-in from the Director level up to the Executive Cabinet level. • Funding the plan. • Requiring/mandating planning so that it happens as forethought. • Keeping the plan updated and aligned. •Evaluating and analyzing the plan using focus groups from a broad campus constituency. • Begin the draft plan.	• Review last year's plan for successes and status verification. • Identify unmet needs from previous planning cycle, current list of needs and challenges. • Develop next year's plan.	• Progressing toward accomplishments outlined in the plan. • Implementation of the plan in a phased approach. • Considering the use of benchmarks or other performance indicators to add quantitative measures to the qualitative ones in place.

APPENDIX G

THE [USG] PLANNING PROCESS

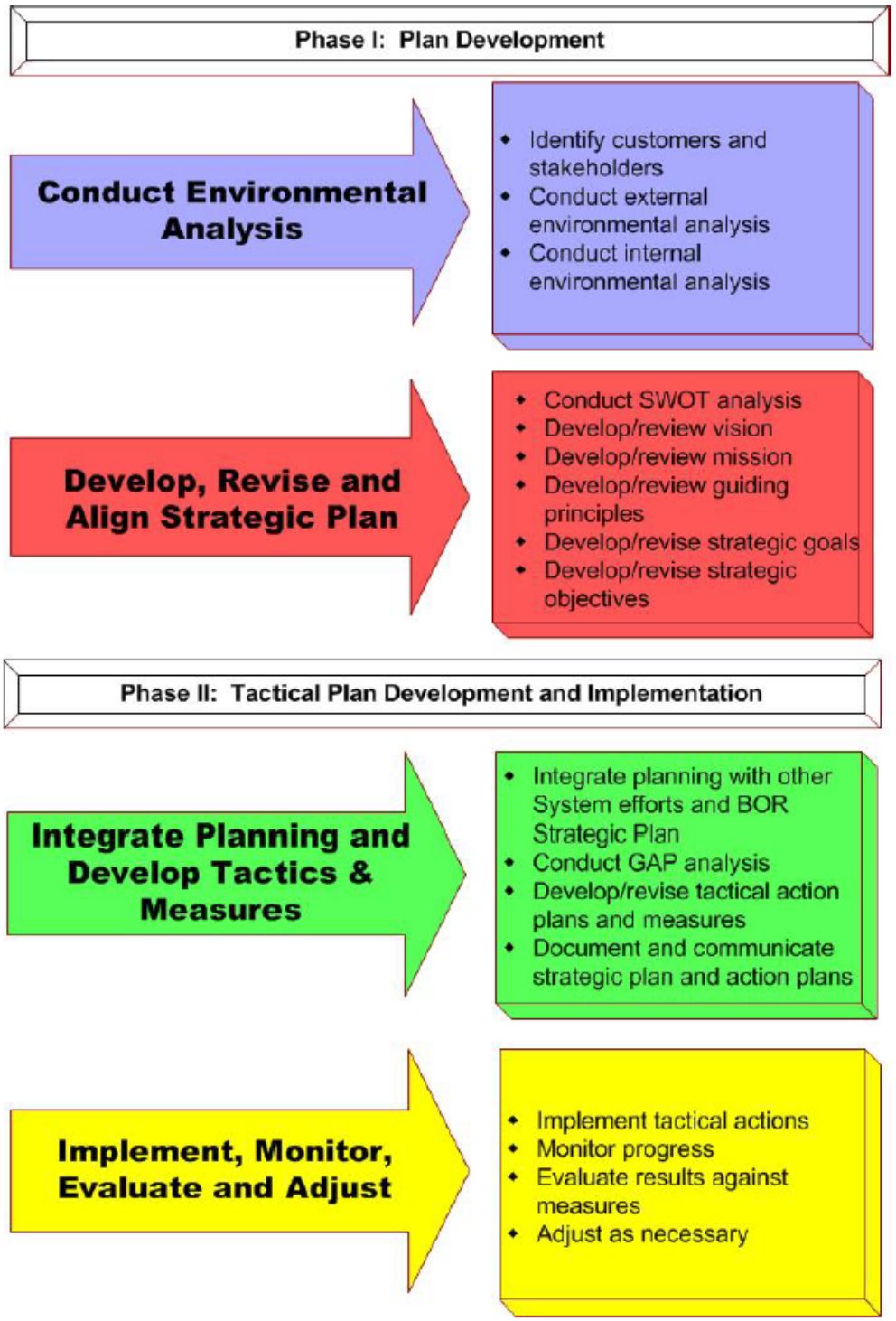
The development of the Strategic Goals and Objectives represents the first phase of an ongoing planning process for the USG IIT. The second phase begins the integration of planning efforts and the development of tactics and measures. While development of the USG IIT Strategic Plan represents a critical first step, its value will be gauged by the success of ongoing implementation, monitoring, evaluating and adjusting. The following diagram illustrates the continuous and integrated strategic planning process being used for USG IIT planning.



As we work toward achieving the goals and objectives outlined in this Plan, detailed tactical action plans will be developed and appropriations secured. Additional documents will be added as developed, and additional documentation will provide periodic progress reports.

This Plan will be incorporated into a continuous and integrated planning process. Periodically under the direction of the Vice Chancellor for IIT, this Plan will be reviewed and updated to reflect necessary changes as System wide needs evolve. The following chart provides more detail information about each of the steps in this process.

The [USG] Planning Process Details



Source: April 1, 2002 IIT Strategic Plan for the University System of Georgia Page 22