

WHITE PAPER

**Aligning Technology with Strategic
Objectives in Higher Education**



By Walter T. Geer, Jr.

Introduction

In the last ten years, technology has dramatically transformed the very nature of education as we know it. For example:

- In the classroom, technology is being used effectively to supplement the learning process, thereby enhancing the curriculum. It is also augmenting traditional teaching methodologies by providing new and exciting alternatives to reinforce course content.
- Because of its interactive nature, it has become a valuable tool in addressing different learning styles in our classrooms. It has also played a major role in helping Colleges and Universities overcome the instructional challenges faced by students who lack adequate pre-college skills.
- Industry needs have prompted institutions to maintain technology at or near state-of-the-art levels. Students must be exposed to the very tools they will encounter upon entering the workforce.
- The need for lifelong learning regardless of time, place or circumstance has resulted in a quantum growth in the number of online courses available and the number of students taking these courses.

In addition to its impact in the classroom, technology has also played a tremendous role in administrative areas. Enterprise Resource Planning (ERP) systems provide a centralized repository of administrative information needed to support senior management decisions. Properly implemented and maintained, ERP systems provide an accurate, real-time analysis of all facets of an institution's operations. Making effective use of this data can have a tremendous impact upon senior management's ability to monitor and develop appropriate strategies to maintain their financial health. This is particularly important for those institutions currently facing complex financial challenges.

ERP systems are also a repository for institutional data. Admissions, Registrar, and Financial Aid functions all rely on these systems to share data across department lines. A study of the data can reveal significant facts regarding enrollment trends, student demographics, retention, etc. These results can then be used to develop targeted recruitment programs that increase enrollment, create more effective retention programs, and identify areas needing administrative attention. These items are undeniably tied to revenue.

In each of the above situations, technology plays a major role in areas that can affect the long-term survival of an institution. The leadership of these institutions must clearly understand the vital role technology plays in their survival. This importance must be articulated, supported, and funded appropriately. This is particularly significant given that some colleges are currently struggling with inadequate infrastructure, obsolete technology and a growing demand for faster and more transparent access to technology. As a result, those fundraising initiatives that previously targeted increasing endowments, improving facilities, providing scholarships, and funding research, now include funding for technology.

Leadership thus becomes critically important in light of the current challenges facing higher education. As your institution's Chief Technology Officer (CTO), your responsibility is to impart the vision that defines *how technology can be utilized to transform key institutional operations and support and enhance academic excellence*. This

vision must serve the priorities of the institution and specifically identify the connection between technology initiatives and the institutional goals they are designed to support. This leads to the setting of objectives, the development of strategies and plans, and the making of today's decisions for tomorrow's results.

The CTO must also convey the "benefits" of technical innovation to their senior administration and Board. It is your job to convince this group of the critical connection between technology and the institution's long-range strategy. This means providing a technology vision that relates unequivocally to the goals and mission of the institution. This vision must also include an understanding of the need for sufficient resources (both financial and personnel) to successfully accomplish the goals.

These challenges call for leadership, or more precisely, a unique ability to challenge, motivate, influence, and innovate. History has shown that leaders emerge in times of crisis or when innovative answers to challenging situations are needed. Our nation's colleges and universities are in need of this leadership today.

What is presented herein is a "roadmap" or "strategy" for technology planning in light of the rapid changes taking place on our campuses today. The objective is to provide practical advice, suggestions, and observations from actual academic experiences. Hopefully, this will empower you to create and achieve the vision that will lead to the success of your institution's core mission.

Walter T. Geer, Jr.
Senior Consultant, Information Technology
The Cambridge Academic Group
Boston, Massachusetts

Understand Your Institution's Mission

“Leadership begins with a vision of what can and should be, and includes a strategy for achieving that vision. This vision should always be connected to your institution's strategic plan. You can't hope to have an IT strategy that aligns with the strategic direction of your institution if you don't first make an effort to understand the institution's strategy itself.”

The role of information technology in any environment is simply to support the short and long term goals of the organization. In the academic world this means supporting the institution's mission, vision, and goals articulated in its strategic plan.

The end result of any strategic plan is typically a set of *high-level objectives* that contain *specific goals* with *detailed timelines* for their completion. Your task is to articulate a vision that utilizes technology to assist the institution in achieving these goals. For example, one strategic goal might be to increase student enrollment 5 percent annually for the next 5 years. As the Chief Technology Officer, your objective is to determine the best use of technology to help the institution reach this 5 percent annual goal. Repeating this process for each of your institution's strategic goals will shape the basic structure for your technology plan.

CONSIDERATIONS

The plan must of course, take into account a variety of complex *assumptions*, *constraints* and *unknown factors* in order to ensure a sense of reality and meaningfulness. Because its mission serves all campus constituents, it will require a tremendous amount of input and buy-in from students, faculty, and staff.

As you develop your plan, here are some things to *consider*:

Create an IT mission statement first

Begin with a clear definition of *your* department's mission. This statement defines IT's role in support of the institution. It also defines your responsibilities in the implementation of the Technology Strategic Plan. This is a very significant step in the process.

Define your “core values”

It's important to develop *core value statements* or *guiding principles* that govern your technology decisions, provided that those decisions are aligned with the institution's vision, mission and goals.

Start with a self-assessment. Conduct an IT “SWOT” analysis.

The SWOT analysis (Strengths, Weaknesses, Opportunities, and Threats) provides information that is helpful in understanding your resource capabilities, limitations, and potential. It's subjective, and should focus on where IT is today and where it should be in the future. This is a critical process to complete *before* starting the development of the Technology Plan. Conduct the analysis in small group sessions (no more than 10) with IT staff.

To analyze *Strengths*, consider the following:

Is there a strong commitment from the administration to maintain state-of-the art technology? Site examples.

Are student technology fees used effectively to support technology needs?

Are faculty engaged in the use of technology in instruction?

Are administrative systems integrated and contributing to the efficient operation of the institution?

Is IT staff adequately skilled to support the needs of the institution?

Is the morale of the department high?

Does the IT department have a strong middle management staff?

Are there any incentives in place to create an atmosphere conducive to excellence?

Has the department demonstrated the ability to adapt and change as needed?

Is the department able to innovate?

Are there sufficient technology resources to carry out the mission of the institution?

Is there sufficient access to technology (desktop PCs, computer labs, smart classrooms, etc.)?

Is there adequate Network access (local, remote)?

Is there adequate Help Desk and technical support?

Are there policies and procedures in place to guarantee consistency in support?

Is there adequate faculty, staff, and student access to training?

Is the campus computing environment centralized or decentralized?

To analyze *Weakness*, consider the following:

Is the campus Infrastructure adequate? (Infrastructure can be defined as the synergy of bandwidth, cabling, network hardware, telecommunications, etc.)

Is there a desktop upgrade cycle in place?

What is the extent of technology literacy across the campus among staff and faculty?

Is technology adequate for the pursuit of research?

Is the IT department able to attract the appropriate talent?

Is training available for IT staff?

Can staff adequately maintain and support existing technology?

Is there a formal project management process in use?

Is there a mechanism to periodically inform students, staff, and faculty of upcoming technology plans and recent accomplishments?

Is there a mechanism to periodically evaluate, assess, and obtain feedback from students, staff and faculty regarding campus technology?

To analyze *Opportunities*, consider the following:

Is the institution effectively utilizing technology to recruit new students?

Is the institution positioned technically to take advantage of distance learning opportunities?

Is the institution positioned technically to take advantage of emerging technologies (portals, wireless, VMWare, VOIP, SANs, etc.)?

Are there new technologies that the institution can use to innovate or lower costs?

Are there opportunities for strategic partnerships with external vendors?

Are there opportunities to use technology to reach and remain engaged with alumni?

Is the institution using the full capabilities of its ERP system?

To analyze *Threats*, consider the following:

Can the institution keep up with technological change?

Are there budget restrictions? To what extent?

What is the extent of “technology competition” from peer institutions?

Are enrollment trends affecting the supply and demand for technology?

Is the Institution technically prepared to adequately address growing security concerns?

Use the SWOT analysis to develop an *Action Plan*. This plan should detail the *specific steps* to be taken to seize opportunities and to remedy weaknesses. The plan also identifies the responsible individual(s) charged with the task. This document should then be *integrated* into the Technology Strategic Plan.

DEVELOPING THE PLAN

Assemble a Committee to Develop the Plan

At this point, you should have a significant amount of information to begin the process of developing the Technology Plan. The team selected to develop the plan should represent a wide cross section of the institutional community (students, staff, faculty, etc.). It may also include individuals external to the institution with significant expertise in technology. In most cases, you should consider selecting committee members in consultation with the President.

As the committee develops the plan, here are some things to *consider*:

There is no one ideal method for its development

There’s a wide variety of factors that influence the development of a technology plan. This, plus the fact that every academic institution is unique, means that there is no preferred method for its development.

Don’t get hung up in the details of the Plan

Technology strategic plans are by definition *general* in nature; its purpose is to *set direction and to establish priorities*.

Identify current conditions and assumptions about the environment

Specifically, benchmark the current state of technology within the institution and its existing resources (personnel and financial). The input for this “situation audit” can be gathered by conducting *focus groups* with administrators, faculty, staff, and students. Information may also come from other planning documents already developed by the institution. The audit is intended to reflect *current internal and external environmental*

factors that have a bearing on the development and implementation of the Plan. This audit is also an excellent forum for sharing and debating conflicting views about environmental factors and also helps to clarify vague areas of concern to the institution.

For example:

Student-Related Assumptions:	Students have become increasingly technology literate, with expectations that technology resources will be available to them campus-wide and that faculty will know and understand how to apply the use of technology to the teaching and learning process. These expectations will continue to increase and become more demanding over time.
Faculty/Staff-Related Assumptions:	Faculty and staff will need user-friendly access to institutional data, as well as training to interpret the data in order to make informed decisions.
Technology Related Assumptions:	The growing increase in Internet traffic, use of web-based applications, web-enhanced courses and distance learning will magnify the need for sufficient bandwidth and will mandate ongoing improvements and upgrades to network infrastructure.
Resource-Related Assumptions:	The cost of technology is continually decreasing at the unit or component level, but the total cost of ownership of technology is increasing.

Develop realistic goals and action items.

This is a critical part of the process that allows you to define short and long term goals and ultimately, strategies to achieve these goals within specific time frames. Remember, these are general in nature. Ultimately, you will translate these *high-level strategic objectives* into *detailed plans* in order to achieve *measurable* outcomes. Make sure that your objectives address the following key considerations:

Infrastructure	Recognizing that the demands for new technologies are constantly increasing and changing, your infrastructure must allow for growth and expansion, adaptation to new technologies and applications, and the accommodation of specialized equipment needed for instruction, administration, and assistive technologies.
Use of Information Technology in teaching and learning	The widespread use of electronic teaching and learning aids will be indispensable tools in achieving student success. For faculty, access to technology and training will be essential in order to encourage creative pedagogy and the transformation of teaching.
Use of Information Technology to support Library applications	The Library infrastructure will require reliable access to database and online resources and must accommodate image, sound, video and large data files to meet the growing demands of faculty, students, and staff for 24 by 7 access to information.
Use of Information Technology in Administration	Seamless integration between Financial Aid, Human Resources, Business Office, Admissions, Advising, & Registration systems will facilitate greater administrative efficiencies and better managerial decision making.
Organizational Infrastructure	A skilled IT organization will be necessary to maintain the College or University's infrastructure and successfully implement its IT Strategic Plan. It will require a commitment to recruit, train, and retain staff with the skills necessary to plan, support, and operationalize information technology programs and services.

Understand that implementing any type of plan is dependent upon the successful management of change. Make certain that there are *clear* communication channels and that *all change actions are driven by the plan*. Address cultural change as an important consideration; take a realistic view of the institution's readiness to cope with change.

Constantly review the plan and make changes as needed.

As time goes by, it's unlikely that priorities will stay the same. Strategic plans cannot be regarded as immutable; instead, they must be flexible enough to accommodate the demands of continuous change. If the institution has to change its strategic direction unexpectedly, the IT strategy *should change in parallel*. Senior management's responsibility is to keep the strategic plan under constant review. Your responsibility is to remain open to the need for changes in strategy when the situation dictates.

Revisit the plan on a regular basis and ask the following questions:

Is our technology "vision" for the institution *still valid*?

Does our view of the desired future for the institution *match up* with the way our plan is developing?

Are the *themes* of our strategy still appropriate?

Do we need to consider *additional themes* that should be added to the agenda for change, because of new technologies, pressures from the environment or changes in department capabilities?

Are any of our strategic themes *no longer relevant* to the institutional agenda for change?

Are the priorities that we decided *still the right ones*?

Are there things 'on the back burner' that have become *more important* now?

IT RESPONSIBILITIES

Once the Plan is in motion, there are certain on-going IT responsibilities that you need to focus upon:

Keep the IT organization on course to implement the plan

Once goals and objectives have been defined in depth (i.e. the “detailed plan”), it is your responsibility to develop the strategy to “make it happen.” This is what is meant by *strategic management*.

Develop a governance methodology

A governance system establishes a process for prioritization, decision making, and performance measurement. Standard governance practices such as regularly scheduled review meetings and periodic status reports help to create formal processes and structures to manage objectives.

Keep senior administration informed through clear reporting structures

Clear reporting structures provide management with an understanding of what is going well (or not so well) with implementation. It should also *clearly explain* the *consequences* of current activities and decisions. It’s also important to consider the needs and priorities of those who receive these reports as well.

Assemble the “Right Team”

Throughout the process, it’s important that you assess whether or not you have the appropriate IT staff to successfully achieve the evolving goals and objectives. In many cases, there may be a tendency to modify the plan in accordance with known resource capabilities and or limitations. While understandable, this approach should be avoided. The IT organization needs to be flexible - capable of shifting direction, job responsibilities, and priorities as required. Use the IT plan as the guiding force to continuously restructure and align the department in accordance with changing strategic priorities.

“Market” your success

Take every opportunity to promote your department’s success as each goal or objective in the plan is reached – no matter how small the accomplishment. Stress its benefit to the institution in general, and to the user in particular. Link the success to the overall strategic mission of the institution. Use email, flyers, newsletters, status reports, and correspondences with the administration and the Board.

Conclusion

College and university senior administration should regard the Technology Strategic Plan as an essential part of their overall Strategic Plan. Decisions made as a result of this plan can be instrumental in serving the long-range priorities of the institution. Thus, understanding the connection between the two is critical. Your role as the institution's Chief Technology Officer is to be an advocate for innovative change. To do so, create the vision, clearly define the benefits, justify the resources needed, and lead your team to success.

About the Author

Walter T. Geer, Jr. is Senior Consultant in charge of Information Technology at The Cambridge Academic Group in Boston. He has an extensive amount of experience helping clients solve complex business problems. He specializes in information technology strategic planning, business process reengineering, and technical leadership training. A graduate of Duke University, Mr. Geer gained this experience over a 30-year period with such Fortune 100 organizations as Philip Morris USA, Duracell, and GE where he served under the leadership of Jack Welch. Since 1995, he has been involved higher education where he served in senior administrative IT roles at the State University of New York, The Community College System of Massachusetts, and Harvard University. He can be reached at: walt.geer@thecagroup.org.

Disclaimer: The purpose of this publication is to provide a reference point for the processes and practices associated with a certain issue. This report is one source of information, only, and is not a definitive statement of practices in the industry. As changes may have occurred since the completion of this study, the documented processes, policies, or practices may no longer be representative of what is currently in place.

If you have any questions or comments about this paper, feel free to email us at: info@thecagroup.org

About The Cambridge Academic Group

Located in Boston, we are an interdisciplinary group of experienced senior consultants with specific expertise in Information Technology, Enrollment Management, Development, and Marketing as it relates to higher education. Our collective academic experiences include senior administration roles at Harvard University, University of Massachusetts, University of Michigan, State University of New York, and Wilberforce University. Our mission is to provide leadership, guidance, and technical expertise to assist our nation's Colleges and Universities.

For more information regarding our services, visit us on the web at: www.thecagroup.org or call our corporate office (617) 878- 2115.

The Cambridge Academic Group, LLC
60 State Street, 7th Floor
Boston, Massachusetts 02109