Recommendations for Increasing the Academic Return on Technology

Consulting Report for the University of West Florida

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The Consulting Engagement

UWF contracted with Collegis, a Florida-based technology-related services company focused solely on higher education, for the consulting services of Dr. William H. Graves and his colleagues. President Cavanaugh asked Dr. Graves to advise him on the University’s readiness to use information technology (IT) in the academic program to strategic institutional advantage and, along the way, to work with University leaders to help select a small number of academic initiatives that could be supported now, monitored for evidence of results, and scaled to achieve institutionally systemic academic returns on technology over the decade.

This report captures Graves’ findings and recommendations derived from a series of document reviews, interviews, and planning discussions involving Graves and his colleagues as follows:

Mar. 5:  - Participated in a University Planning Council (UPC) discussion of a draft IT strategic plan.
         - Met with several University officers.

Mar. 25: - Framed and led a leadership retreat for a group selected by the President (Appendix A).
         - Debriefed with several University officers following the retreat.

Apr. 9-10 - Discussed the results of the leadership retreat with the UPC IT subcommittee (UPC-IT).
             - Met individually and collectively with the University’s three deans to fine tune the results.
             - Met with the Director of the Center for University Teaching and Learning (CUTL).
             - Met with the Senior Vice President and the CIO/Associate VP for IT.

May 8   - Will meet with the UPC-IT in a final review of the IT strategic plan.
         - Will meet with several university officers.

May 15  - Will meet (tentative) with the UPC during the UPC-IT’s presentation of the IT plan.
         - Will debrief (tentative) with the President and the Senior Vice President.

The leadership retreat was especially effective in identifying and discussing a tactical course of action for focusing resources on several academic initiatives with the potential to produce mission-critical results for the University. Subsequent discussions with various individuals and groups helped 1) solidify a vision, key objectives, and academic redesign strategies, 2) prioritized a few projects based on the confirmed strategies, and 3) raised issues that must be resolved to enable success.

The recommendations in the report that follows are consistent with Collegis’ interviews and discussions with UWF leaders and committees, as well as with national best practices. The recommendations advise President Cavanaugh and the UPC-IT on a practical course of action that can lay the foundation for ongoing progress in applying technology to achieve visible mission-strategic outcomes and bring increased distinction to UWF.
Planning and Budgeting for Results

On July 15, 2002, Dr. John C. Cavanaugh became the fourth president of the University of West Florida (UWF) and the first selected by a local Board of Trustees. A top priority for President Cavanaugh is to increase the University’s academic return on technology—e.g., to ensure that technology is used as a lever for measurably increasing mission effectiveness, efficiency, and reputation.

UWF’s investment in information technology (IT) is significant, and the University is being competitively pressured to spend more on networking, a new administrative systems, a new learning management system, a campus portal, and other technologies. For example, under the terms of recent changes in the governance of higher education in Florida, UWF must convert to a new, integrated administrative system (financial and human resources system), and that process is underway. The University Planning Council (UPC), moreover, will soon finalize an IT Strategic Plan through its IT Committee (UPC-IT). The University is also in the process of selecting a learning management system (LMS) to be licensed institutionally and to replace Prometheus.

UWF’s wise focus on the IT environment comes in the midst of considerable financial uncertainty. Assuming a return to normal economic conditions, the National Center for Higher Education Management Systems nevertheless predicts that by the end of the decade Florida will still face a fiscal shortfall of -5.7% as a percentage of state revenues—during which time the state will also face greater funding requirements for other state services than for higher education. It is therefore doubtful that UWF will be able to invest fully in the IT Strategic Plan, which (in its current draft) points the way toward an IT environment architected and supported to permit the pursuit of excellence in every dimension of the University’s mission. Instead, UWF will have to prioritize and phase in its investments in technology and technology support, all while managing its programs and services to respond to the state’s expectations for efficiency and accountability in the face of continuing revenue shortfalls. It is therefore critically important that technology be deployed to:

- Pay off in the quality and reach of the academic program in measurable ways.
- Help to stabilize or reduce operating expenses on a per-student basis.
- Generate new, “profitable” revenues to offset the eroding percentage of the operating budget coming from state funding.

Rather than allowing technology to be bolted onto key academic and administrative processes at additional net cost, President Cavanaugh is working with academic and administrative leaders to plan and implement redesign strategies focused on producing high-priority, mission-critical outcomes during the remainder of the decade as per-FTE state funding shrinks as a percentage of the University’s budget. The initial costs of these process redesign efforts will be significant and will have to be borne mostly by

- generating new revenues through the use of technology—see subsequent recommendations,
- displacing other costs and reallocating existing resources,
- assessing a per-credit-hour fee on the student in return for technology-related services that would cost much more were they not managed by the University on behalf of all students—Internet access services, print services, email services, online course materials and reference materials, hosting services for student web pages, and so on,
- sharing costs with one or more like-minded institutions, and/or
- contracting with a technology services partner with a business model that allows it to share initial costs with UWF in return for a future return on its investment.

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1 State Shortfalls Predicted Throughout the Decade, Policy Alert (February 2003), The National Center for Public Policy and Higher Education, San Jose, CA.
Vision
The University of West Florida (UWF) will use technology in its academic programs and processes to:
• Improve student learning demonstrably.
• Be distinctive in pursuit of pedagogies conducive to active learning.
• Focus on and meet mission-related educational needs in the local community, Florida, and beyond.
• Be flexible and cost-effective from the student’s and the state’s perspectives.
• Distinguish the University among comprehensive universities in the southeast.

Vision-Related Measurable Objectives
• Increase the “profits” from degree and certificate programs which can be offered as sponsored programs or on some other cost-recovery basis.
• Accommodate more enrollments without increasing the faculty workload.
• Increase the size of the first-year class, especially the cohort of traditional 18-year olds.
• Strengthen the academic profile of the first-year class.
• Decrease the ratio of first-year students admitted to those who matriculate.
• Decrease the ratio of marketing and recruiting costs to the size of the incoming first-year class. Do the same for programs offered as sponsored programs or on some other cost-recovery basis.
• Increase the retention rate (first-to-second-year persistence) and the undergraduate graduation rate.
• Decrease instructional costs for courses redesigned to increase the retention rate—see the next section for explanation.
• Increase enrolled-student satisfaction.
• Improve UWF’s standing in comparative ratings such as the one conducted by US News & World Report.

The Tactical Academic Plan: Academic Process Redesign
While UWF should continue its commitment, currently delivered through the Center for University Teaching and Learning (CUTL) and the Division of Information Technology Services (ITS), to technology-related faculty support as a faculty entitlement, it should reallocate some of those support resources, along with the necessary new resources, to academic redesign projects designed to be the first step in achieving the measurable objectives outlined in the preceding section. The leadership retreat identified two related redesign strategies for achieving the identified institutional objectives—see Appendix A. Discussions with the deans resulted in the specific projects recommended below.

Recommendation for Redesigning Programs for Convenience Markets
UWF has an immediate opportunity to meet several program-specific demands in the convenience market of students unable or unwilling to participate in instruction requiring significant real-time interactions among students and among students and their instructors. Nearby military bases and their degree and certificate needs provide multiple examples of niche convenience markets. Similarly, 2+2 programs articulated with partnering community colleges provide another example, one in which the student can complete a degree interacting with UWF’s content experts in an online learning environment while remaining in the local community of the partnering community college and drawing on some of its resources in the process. Such 2+2 programs would be based on formal agreements between UWF and partnering community colleges and, presumably, would be welcomed in the Florida Legislature, which is under pressure to grant community colleges the right to offer four-year programs to meet needs currently unmet in their locales. Appendix A identifies such examples in terms of existing or planned UWF programs, but here the focus will be on three convenience-market programs that could be rolled out in the initial round of program redesign and development.
• **Masters in Criminal Justice**: Dean Janet Pilcher of the School of Professional Studies identified this program as her top candidate for further penetration into the convenience market. She spoke of several other possibilities, and has been a leader in recognizing and acting on the need for UWF to serve convenience markets.

• **2+2 Baccalaureate Degree in Business**: Dean Edward Ranelli identified this possibility as his top priority for taking the College of Business into the convenience market for the first time. In the leadership retreat he emphasized the need to take selected business programs, such as this one and the MBA program, to convenience markets in order to generate profitable enrollment revenues.

• **Baccalaureate Degree in Maritime Studies**: Acting Dean Wesley Little identified this program as his proposed highest convenience-market priority for the College of Arts and Sciences. This program is being considered by the Navy to become part of the Navy College Program. With help from the CUTL, the general education pre-requisite courses for the Maritime Studies program will be redesigned to be available also in an online format to make it possible for convenience-market students to qualify for the program.

**Assumption**: All three deans believe that to succeed in developing and delivering convenience-market niche programs will require treating the programs as “sponsored programs.” Indeed, this would appear to make it more likely that a successful business model could be developed on a program-by-program basis to satisfy the financial requirements of both the colleges and the University. This would not preclude FTE-subsidized variations on the programs.

**Resource Requirements**: Succeeding in convenience markets is too often an unnatural academic act. Based on several successful experiences in the Collegis client base, the critical success factors, beyond a committed dean and faculty team, include the following:

• Market research to validate—or not—the intended convenience market on a program-by-program basis.

• A business model and plan that projects start-up and ongoing expenses, enrollment revenues, and a break-even schedule for “profitability.”

• A cost-effective market plan for each program to reach the intended market.

• A marketing and student recruitment process that takes advantage of technology—prospect databases, email marketing, web tools, telemarketing, lead management, online loan processes, and so on—to ensure that “if UWF builds it, they will come.”

• Curriculum design, instructional design, course development, and course and program evaluation services to support the faculty team responsible for redesigning the program and its courses for delivery to a convenience market. The support team, in consultation with the faculty, would develop templates, common features, and common interfaces to ensure the coherence of the program from a student perspective.

• Online services for student enrolled in a program—bursar, registrar, bookstore, and other student services.

• A reliable, redundant, secure infrastructure for hosting the program.

• 24x7 technology help desk and online support for students enrolled in a program and for their instructors.

**Success Metrics**: Several “Vision-Related Measurable Objectives” are addressed by this recommendation to take three programs to appropriate convenience markets. Specifically:

• Increase the “profits” from degree and certificate programs which can be offered as sponsored programs or on some other cost-recovery basis.

• Accommodate more enrollments without increasing the faculty workload.

• Decrease the ratio of marketing and recruiting costs for programs offered as sponsored programs or on some other cost-recovery basis.
• Improve UWF’s standing in comparative ratings such as the one conducted by US News & World Report.

Recommendation for a Common Course Redesign Project

Many of the outcomes listed as “Vision-Related Measurable Outcomes” link directly to the success and reputation of UWF’s undergraduate programs, especially its general education and core curriculum programs which lay the foundation for a successful undergraduate experience combining intellectual breadth with intellectual depth. Approximately 20-25 of these courses are taught in multiple sections or large lecture halls—common courses accounting for at least 35% of all enrollments at any moment. These common courses often negatively affect retention rates, graduation rates, and student satisfaction. Some professional courses required in a specific college may also have a relatively large enrollment base and affect retention or other key measures of academic success in that college.

Over the past four years of working with 30 institutions, the Center for Academic Transformation’s Course Redesign Project funded by the Pew Trusts has demonstrated conclusively that common courses that enroll large numbers of students at any moment can be redesigned using technology to improve learning outcomes while reducing instructional costs. The secret to success is not in developing digital content, but in the redesign of 1) the student’s individual learning experience and 2) the role and responsibilities of the instructors and other instructional personnel. Participating faculty members must take the course apart and reassemble it to encourage active learning, to replace non-essential human labor with digital capital (off-the-shelf tutoring and testing software, for example), and even to permit each student to take an individualized path through the course. With these successes and goals in mind, the participants in the leadership retreat endorsed the idea of undertaking a course redesign project. Based on the experience of the program funded by Pew, two courses can be redesigned at one time more cost-effectively than one. Based on Dean Little’s input, those two UWF courses could be:

• **College Algebra:** Six of the course redesign projects funded by Pew involved introductory math courses—algebra in four cases. So there are best practices to guide a UWF algebra project.

• **Writing (English Composition):** As an alternative to the traditional English composition course, UWF could consider developing a new course to nurture students’ abilities to communicate in the new medium of the Internet, which relies extensively on textual communication along with aural and visual forms of expression. Students would learn to use the Internet and related technologies as tools for finding information, publishing their ideas, and communicating interactively with other individuals and groups. Such a course could be designed to be a core course—e.g., required—and could be team taught to place its goal of communications fluency in the context of disciplinary or interdisciplinary content.

Resource Requirements: The resource requirements for common course redesign are similar to those listed under the previous recommendation with the exception that marketing and student recruitment services are not needed and should be replaced with research to gain an understanding of the role of selected courses in retention and student satisfaction issues.

Effective practices suggest that the course redesign process proceed under experienced project management and with full support for the faculty teams involved. The course redesign process is not a process familiar to instructors, who, left to their own planning and implementation, will veer away from a true redesign agenda toward a more familiar improvement agenda. Course redesign proceeds through five phases, the first four phases covering a period of approximately 18 months:

• **Planning Phase**
  » Secure joint commitments from the faculty team and the executive sponsors through expert facilitation.
» Provide expert consultation to the faculty team—planning process, best practices, team responsibilities.
» Plan the structure of the redesigned course—course objectives, role of technology, evaluation of learning, role of individual instructors and other instructional personnel, cost structure.
» Report results to the executive team.

- **Course development phase**
  » Proved instructional design consultation for the faculty developers.
  » Provide course development support for the faculty developers.
  » Report results to the executive team.

- **Pilot Phase**
  » Roll out one section of the redesigned course.
  » Monitor issues and make adjustments accordingly.
  » Review final learning outcomes and student/faculty satisfaction.
  » Report results to the executive team.

- **Implementation Phase**
  » Roll out the redesigned course in all sections taught.
  » Monitor issues through project management.
  » Assess success at the end of the semester.
  » Review final learning outcomes and student/faculty satisfaction.
  » Make adjustments.

- **Marketing Phase**
  » Report results to the executive team.
  » Report results to the Board and the public, emphasizing the improvement in learning outcomes and student satisfaction and the decrease in instructional costs.
  » Publicize the results though publications, conference presentations, the web, and other media.

**Success Metrics:** The recommendation to redesign two common courses addresses several “Vision-Related Measurable Objectives.” Most of these objectives, listed below, will require longitudinal tracking.

- Accommodate more enrollments without increasing the faculty workload.
- Increase the size of the first-year class, especially the cohort of traditional 18-year olds.
- Strengthen the academic profile of the first-year class.
- Decrease the ratio of first-year students admitted to those who matriculate.
- Decrease the ratio of marketing and recruiting costs to the size of the incoming first-year class.
- Increase the retention rate (first-to-second-year persistence) and the undergraduate graduation rate.
- Decrease instructional costs for courses redesigned to increase the retention rate.
- Increase enrolled-student satisfaction.
- Improve UWF’s standing in comparative ratings such as the one conducted by US News & World Report.

**The Tactical Resource Plan: IT and Academic Support**

Central IT services tend to be treated as entitlement services available to all at all times for all purposes in the absence of 1) a clear set of priorities for applying technology to achieve mission-critical results that can be assessed and reported and 2) an articulation of what services will and will not be provided as part of the baseline of common (central) IT services, especially in terms of the academic redesign projects recommended in the previous section. This document addresses the first point—a clear set of priorities—through the recommendations in the preceding section. And the current draft of the UPC-IT IT Strategic Plan addresses the second point, but stops short in some service areas of a clear recommendation to centralize or distribute support responsibilities. While the draft is somewhat ambiguous about
responsibilities for classroom technologies, for example, the six people across the campus currently supporting classroom technology on a highly distributed basis could probably hand off that work to one person. So while most of the recommendations below are consistent with the current draft of the UPC-IT IT Strategic Plan, there is more emphasis in the recommendation below on the provision of centrally provided or coordinated services than in the plan—in the interest of economies of scale and coherent, manageable progress.

UWF’s limited experience in redesigning academic programs for delivery into convenience markets lies in the College of Professional Studies. The other colleges have less experience. COPS reassigned resources to various technology and convenience-market support functions to speed progress, but COPS is not positioned to help the other colleges enter their niche convenience markets.

UWF has little experience with the planning and implementation methodologies required for successfully redesigning common courses to improve learning outcomes while reducing instructional costs. While the faculty redesign team has ultimate authority for the end result, the aims of the process and its methodologies are foreign to the faculty experience. Success likely will require assistance and project management not found on campus. The process is an “acquired” process that, once learned and practiced, can be scaled and infused into the campus culture.

The Center for University Teaching and Learning has operated primarily as a resource center for faculty interested in improving their teaching and their students’ learning—with increasing attention to the role that technology can play in that process. These services are admirable and needed. But so are support services for the faculty teams that will participate in the two recommended academic redesign initiatives. These two different support requirements—one with an entitlement objective and one with an outcome-oriented objective—must be brought into an appropriate balance. CUTL is not experienced in academic redesign and is not staffed with the required expertise, so it makes sense for UWF to retain the primary entitlement mission within CUTL while placing the support resources for academic redesign in a different, more outcomes-focused management structure.

**Recommendation: Baseline Central IT Responsibilities**

ITS should be responsible for the baseline University-wide architecture and technology standards that will provide each member of the University community single-login access to an increasingly seamless, integrated, web-based set of application services with resource authorization and customization at the individual level. Failure to complete this comprehensive degree of integration and personalized ease of access during the next few years will disappoint students and other members of the University community, hinder the exchange of data between units and between people on and off campus, and diminish the ability to achieve economies of scale in technology purchases, licensing, and support personnel. Among the systems that should be managed and supported centrally are

- Telecommunications infrastructure and policy
  - Connectivity to the Internet—and Internet2
  - Campus fiber backbone network
  - Standards for connecting to the campus backbone
  - Wiring standards and wiring closets in the building
  - LAN standards, if not the LANs themselves
  - Wireless architecture
- PC standards (desktops, laptops, and other devices that communicate with PCs)
- Server standards and server administration
- Database architecture
- Middleware—e.g., the Nautilus Card system, single login authentication, etc.
- ERP system (SCT Banner system)
On the other hand, the IT Strategic Plan should leave to the units the flexibility to purchase and support special-purpose technologies that do not impact the overall coherence of the University’s intranet and external presence on the web. Every major unit—college, division, and so on—should have onsite, frontline technology support to manage local devices and provide just-in-time, hands-on problem resolution beyond the central call-in and online help desk.

**Recommendation: An Academic Redesign Resource Center**

UWF needs a resource center that can focus on helping the colleges and departments succeed with the academic redesign projects selected by the President and his cabinet for support. Such an “**Academic Redesign Resource Center**” initially would focus on the two redesign initiatives already recommended herein and would include staff resources as follows:

- A director experienced in project management and interdepartmental communications and with additional experience in either sales and marketing or in academic technology support
- A lead sales and marketing professional
- Two professionals experienced in assisting instructors with technology-enabled program development and the pedagogical use of technology in the classroom—curriculum design, instructional design, course development, faculty support
- A technology support professional (with expertise in the LMS selected by UWF and in classroom technologies) to coordinate in all technology matters with ITS

The Academic Redesign Resource Center (ARRC) would report to the Senior Vice President and be governed by a Executive Team consisting of the SVP and the Provost, both of whom would be co-chairs of an **Academic Redesign Resource Advisory Committee** responsible for communicating the purpose and results of academic redesign across the campus, bringing ideas to the Center, and helping the President, Provost, and EVP select projects to be supported by the center.

President Cavanaugh should consider placing the support professionals from COPS in the new center while guaranteeing Dean Pilcher that her projects would always be supported up to the level of two FTEs. This gives her access to skills not present in her current staff of two people.

The President should also consider placing CUTL’s two staff members under the management of the new center and then allocating from the center’s broader resource base the services required to support and deliver CUTL services at an annually confirmed level—LMS workshops, pedagogy workshops, individual faculty consultation, testing of new technologies applicable to the teaching and learning process, and so on.

The following graphic depicts the various relationships.
Appendix A: Summary of the Leadership Retreat of 3/25/03

Dr. William H. Graves of Collegis framed and then facilitated a discussion designed to help President John Cavanaugh develop a short, focused list of projects designed to optimize the institutional academic results achieved through the use of technology. The outline below was not crafted during the discussion and has not been vetted with the participants. It is Graves’ synthesis of the discussion and reflects his understanding of the related, earlier discussion facilitated by President Cavanaugh at the University Planning Council meeting of March 5. The outline is intended to be the first step in an action plan for deploying technology resources and related professional services to help achieve strategic, measurable institutional academic outcomes from the application of technology.

Vision
The University of West Florida (UWF) will use technology in its academic programs and processes to:

- Improve student learning demonstrably.
- Be distinctive in pursuit of pedagogies conducive to active learning.
- Focus on and meet mission-related educational needs in the local community, Florida, and beyond.
- Be flexible and cost-effective from the student’s and the state’s perspectives.
- Distinguish the University among comprehensive universities in the southeast.

Vision-Related Measurable Objectives

- Increase the “profits” from degree and certificate programs which can be offered as sponsored programs or on some other cost-recovery basis.
- Accommodate more enrollments without increasing the faculty workload.
- Increase the size of the first-year class, especially the cohort of traditional 18-year olds.
- Strengthen the academic profile of the first-year class.
- Decrease the ratio of first-year students admitted to those who matriculate.
- Decrease the ratio of marketing and recruiting costs to the size of the incoming first-year class. Do the same for programs offered as sponsored programs or on some other cost-recovery basis.
- Increase the retention rate (first-to-second-year persistence) and the undergraduate graduation rate.
- Decrease instructional costs for courses redesigned to increase the retention rate—see the next section for explanation.
- Increase enrolled-student satisfaction.
- Improve UWF’s standing in comparative ratings such as the one conducted by US News & World Report.

Two Redesign Strategies for Achieving the Vision-Related Objectives

In order to achieve measurable institutional goals, focus technology-related faculty support on the redesign of a few targeted academic programs and course clusters.

- The Convenience-Market Redesign Strategy: Redesign the delivery of selected degree and certificate programs to meet educational needs in Florida’s convenience market of students unable or unwilling to participate in instructional delivery models constrained by significant requirements for real-time interaction among students and among student and their instructors. Candidate programs include:
  » Lateral-entry teacher preparation
  » MBA program
  » Programs designed to meet educational needs identified by the Navy
    o Maritime studies
    o Oceanography
  » 2+2 programs based on partnership agreements with interested Florida community colleges
• Liberal studies BA completion program
• Undergraduate business program
• Teacher preparation program
• Social Work
• Criminal Justice
• Maritime Studies
• Oceanography
• BS in nursing

• The Common-Course Redesign Strategy: Focus selectively on the 20-30 “common courses” for which enrollments aggregated across all course sections account in total for at least 35% of all enrollments at any time. Redesign selected courses both to increase learning outcomes and to reduce instructional costs—simultaneously. These courses will be selected from:
  » General education courses such as basic math and writing courses, introductory psychology, introductory biology, introductory chemistry, and others that critical to retention and articulation with the undergraduate degree programs.
  » Courses that are required in professional degree programs.
  » Developmental courses

Next Steps
• Obtain the sponsorship of the President’s cabinet for the objectives and strategies outlined above.
• In consultation with the deans, develop a selection process to identify programs, courses, and faculty participants for the projects to be undertaken in the “convenience-market strategy” and the “common-course redesign strategy.”
• Identify the resources required to achieve success. In the process, identify any gaps in the current resource base. Accordingly develop a resource plan 1) to reallocate resources and acquire needed new resources and 2) to organize and manage the total resources required to proceed.
  » Align the UPC-IT subcommittee’s information technology plan with the objectives and strategies outlined above.
  » Plan and implement the integration of the major systems required to support the above strategies.
  » Ensure that the course management system selected for central support is consistent with the above strategies—e.g., can be administered and supported on a 24x7 basis, either internally by OIT or externally, and can be affordably licensed within the University’s scenarios for working with community colleges, the Navy, and potential revenue-generating distribution channels for UWF course materials.
  » Ensure that the marketing, academic, student, and technology support resources required for success (market research, market planning, student recruitment, curriculum designers, instructional designers, course developers, online student services, 24x7 student/faculty help desk, etc.) and the resources and responsibilities of the CUTL intersect in consistent ways.
  » Articulate the resources that will be focused on the projects envisioned above with the resources that will be focused on academic technology support as a faculty entitlement—the library model.
  » Describe the limitations on the latter in terms of open-access services available to the faculty.
• Vet the overall project plan with the UPC.
• Develop tactical project plans with timelines, reporting schedules, and planning-update cycles.
• Begin the project efforts around July 1 with an eye toward piloting selected courses and programs in the Spring Semester of 2004.
• Provide change management and project management to ensure the success of the initial projects and to establish processes for infusing such innovations throughout the institution over time.