

INFORMATION TECHNOLOGY RESOURCES AND SERVICES
AT THE UNIVERSITY OF THE PACIFIC

A Report to the Provost

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Information Technology Resources and Services at the University of the Pacific

Introduction and Overview: Directive to the Consultants

In January 2006, the Provost's Office at the University of the Pacific convened a team of consultants to review information technology resource and services issues. The three consultants – William E. Bertrand (Tulane University), Kenneth C. Green (The Campus Computing Project) and James E. Morley Jr. (NACUBO) – had a briefing conference call with the Provost and CIO ahead of a two-day visit to the Stockton campus on February 2-3, 2006.¹

The February visit to the Stockton campus involved two full days of intensive, non-stop interviews with Pacific's senior administrators, deans, faculty, staff, and students, all arranged by the Provost's office. Faculty and deans from the Dentistry School in San Francisco and the Law School in Sacramento participated in some of the interviews via videoconference. Ahead of the February campus visit, the consultants received a thick briefing book of background documents about IT planning, policy, and budget issues. Finally, the consultants had entry and exit sessions with the President and the Provost.²

Prior to our arrival at Pacific, the Provost provided the consulting team – and the Pacific community – with a statement regarding the focus of the IT review. Specifically, the consultants were instructed to:

1. Provide a comparative perspective on current University IT priorities and planning for the next 3-5 years.
2. Evaluate the University's IT priorities in relation to achieving parity with the "top third" of mid-sized (non -R1) comprehensive universities on IT deployment and services in relation to other Universities.
3. Evaluate the appropriateness of IT funding and the allocation of IT resources.
4. Evaluate the Office of Information Technology's IT planning and its relation to university planning. How can/should University planning set a clearer institutional goal or pathway for IT planning?
5. Identify options and opportunities for Pacific to use IT to increase revenue and/or national standing.

Additionally, the provost was explicit in his written and oral communication to the consulting team that the review was to focus on IT planning and policy issues and not on personnel issues.

¹ Biographical statements for the three consultants are presented in Appendix A. Two of the consultants – Kenneth Green and James Morley – had no prior contact with the University ahead of the 2006 consulting engagement on IT issues. William Bertrand has done prior work for the University: he was retained several years ago as a consultant on IT issues and also serves as an advisor to the University's School of International Relations.

² Appendix B presents the schedule of meetings and interviews at the Stockton campus on February 2-3, 2006. The consultants wish to express their thanks to the Provost's office for arranging these interviews, and to all members of the Pacific campus community who spent time with us during our two days on campus.

The consulting team views the very high level of administrative interest – a directive from the provost on the issues surrounding technology resources, services, and information management, coupled with our entry and exit meetings with both the president and the provost - as significant *positive* signals regarding IT issues at the University of the Pacific. The active involvement of the president and provost in the February IT review reflects the University’s commitment – and the commitment of the senior campus officials – to improving the information technology resources and services required to support and enhance academic programs, knowledge management, and administrative services at the University.

Our response to the review mandates from the Provost is organized in two sections. The first section of this report presents our “findings” and offers a direct response to the five review issues identified in the charge to the consulting team. The second section offers additional comments and recommendations about IT planning, policy, and related issues at the University of the Pacific.

FINDINGS: Directives from the Provost

1. *Provide a comparative perspective on current University IT priorities and planning for the next 3-5 years.*

As elsewhere in this report, the review team’s response to this first item benefits from Bertrand’s prior work for the University, Green’s data from The Campus Computing Project, and Morley’s extensive campus and institutional experience.

Compared to other similar institutions, we find that the University has made great progress on key IT infrastructure and service issues over the past five years.

- *The Campus Network.* The network backbone design is solid, consistent with current standards and practices, and shows great improvement over the backbone situation just five years ago when Bertrand was first engaged as an IT consultant. Internet and wireless access are present throughout most of the campus. Our campus conversations suggest that most users seem very satisfied with Internet access. The students we interviewed reported that their peers seemed particularly satisfied with Internet and wireless access, again a significant change compared to five years ago.
- *IT Budgets and Staffing.* Another indicator of University’s commitment to enhance information technology resources and services is reflected in growth in the IT budget and the increased number of central IT staff: both the IT budget and staffing have increased significantly in recent years and now, according to comparative data from the EDUCAUSE Core Data Service and The Campus Computing Project, fall into a range that is generally comparable with similar institutions nationwide – about 5-6 percent of total campus expenditures.
- *Instructional Integration of IT.* Also encouraging is the growing use of IT as an instructional resource. For example, campus officials report that approximately 70 percent of classes at Pacific make use of Blackboard, the University’s learning (or course) management system (LMS). By comparison, data from The Campus Computing Project indicate as of fall 2005, approximately 52 percent of the classes at private research universities use a LMS.
- *ERP Upgrades and Enhancement.* The University is making thoughtful investments to upgrade key ERP/administrative information system modules and has plans to deploy additional analytic tools – some from SCT (the primary ERP provider), some

from other sources – that should enhance access to data and information. These investments will aid and inform institutional planning and decision-making across almost key academic, administrative, and operating units. Moreover, senior officials in key administrative operating units appear to support strongly the continuing investment in ERP upgrades and analytical resources, recognizing the short- and long-term value of these investments.

Taken together, these items and others point to significant gains and improvements in the IT infrastructure, resources, and services over the past five years. These gains place Pacific about “on par” with other (non-research) universities.

On the other hand, we also note issues and areas where members of the University’s IT user community – deans, faculty, administrators, students and staff – expressed concern about resources and services, or were critical about current IT policies and the direction of IT planning.

- *Faculty participation in IT planning.* We heard clear concern on the part of the faculty regarding input into the IT planning and decision-making process. Faculty concern involved both tactical and strategic issues. These concerns were highlighted by the successive failure of three different campus-wide IT planning/advisory groups in recent years.
- *Distrust and tension between OIT and administrative units.* Prior to arrival on campus we were informed of what might be best called “distrust and tension” between the OIT and administrative computing. Our campus conversations confirm this tension: each group accuses the other of having “all of the resources.”
- *“Projectization.”* Deans, faculty, and administrators who have specific IT “wish list items” that reflect their current needs or longer-term priorities comment on what they see as the lack of a clear, specific, long-term IT strategy. Requests for specific resources, services, or enhancements – be these requests for products or for custom coding – all appear to become “projects” with an independent life. Some recurring expenditures (e.g., software license renewals) that should be part of the base or core budget were also described as “projects” as opposed to core expenditures. Compounding concern about this “project cycle” process is the absence of clear priorities – from OIT or elsewhere – about the triage process that moves these requests from the broad project list to an implementation priority. Additionally, transparency involving project priorities and resource/personnel allocations is not immediately evident to many OIT clients (individuals and offices) and those with financial oversight responsibility.
- *Communication with and access to IT personnel.* Physical access to IT personnel (and from IT personnel to key decision makers particularly in the administrative arena) is viewed by many outside the OIT offices as a barrier to communication and action. While IT offices at campuses across the country typically “hide” many members of IT staff in what often seem to be “protected” areas, the layout of the IT offices at Pacific seems to reinforce a sense among some that “mere mortals” should have no direct access to key IT personnel.

Many of the items cited above involve communication and control issues. These issues often reflect of the nature and culture of colleges and universities; moreover, they are often common in campus IT organizations. Nonetheless, we concur with senior administration that there are critical steps that should be taken to build on the evolving strengths and successes of Pacific in technology utilization and move towards the resolution of a number these issues.

These issues notwithstanding, our overall assessment is that Pacific has come far in a short time and now provides an “acceptable” level of campus computing and technology resources and services, up significantly from an “unacceptable” level just a few years ago. Pacific’s faculty, staff, IT personnel, and senior campus officials are to be congratulated on these gains.

These gains notwithstanding, there is, of course, always “more to do.” Consequently, the remainder of this report focuses on recommendations that involve the University’s IT vision, as well as IT budgets, planning, and implementation efforts.

2. Evaluate the University’s IT priorities in relation to achieving parity with the “top third” of mid sized (non –R1) comprehensive universities on IT deployment and services in relation to other Universities.

This task involves more time and effort than has been allocated for the consultants. However, we believe that this is a manageable task and the data to inform this assessment are generally available.

That said, we believe that the University’s broad priorities for IT resources and services are consistent with the policies and practices of peer institutions. At Pacific and elsewhere, clientele demands and institutional priorities focus on:

- Academic support: the instructional integration of information technology as a resource to serve and enhance teaching, learning, and scholarship;
- Network and data security;
- Upgrading and enhancing ERP/administrative information systems;
- User support services; and
- ERP analytics/data warehousing.

We note that Pacific, like other institutions, continually confronts new demands for IT services (e.g., wireless and electronic portfolios) and core infrastructure enhancement (e.g., network and data security; disaster recovery and data back-up). Some of these new demands are predictable and can be managed over time through the budget process; others may emerge quickly and will require an almost immediate response that can play havoc with an established budget.

Both the EDUCAUSE Core Data Service and The Campus Computing Project provide benchmarking services that allow Pacific to compare itself to peer and aspirational institutions on a variety of metrics. Budgets, personnel, and ERP deployment are covered as part of the EDUCAUSE Core Data Service, while Campus Computing addresses a complementary range of IT planning and policy issues.³ IT officials at Pacific are aware of and have used both services: the consultants’ briefing book included summary data from the 2002 EDUCAUSE Core Data Survey; additionally, Pacific also ordered a comparative report based on the 2003 Campus Computing Survey (not included in the briefing book.)

We strongly encourage campus officials at Pacific – both the IT leadership as well as other senior campus officials – to use these services and reports as part of a continuing IT benchmarking initiative.

But the data from EDUCAUSE and The Campus Computing Project data address only one aspect of the IT assessment challenge: comparative *institutional* data for peer and aspirational institutions. As benchmarking activities, the EDUCAUSE and Campus Computing data address the *how do we compare* question of understandable interest to campus IT officials, other senior

³ Custom, reports and comparative data are available at no cost to EDUCAUSE member institutions that participate in the annual Core Data Service survey (www.educause.edu/coredata). The benchmarking reports from The Campus Computing Project (www.campuscomputing.net) require a separate fee.

administrators, and to the Regents. Equally important are the *how are we doing* questions that emerge from annual user surveys. Both categories of data are important as part of Pacific's continuing efforts (a) to achieve and then maintain parity with the peer institutions (defined as the top-third of mid-sized comprehensive institutions), (b) to track progress on IT resources and services and (c) to set current and future priorities for IT investments to improve and enhance IT resources and services.

Additionally, we strongly encourage transparency in the use of these data, which, again, should be of interest to both the IT leadership and other senior campus officials. Transparency means ready access to data that allows campus officials to view IT issues – planning and policy, resources and services – in a broader context, be it comparative data for other institutions (*how do we compare?*) or trend data from various constituencies (e.g., students, faculty, staff) in the Pacific user community (*how are we doing?*).

3. *Evaluate the appropriateness of IT funding and the allocation of IT resources.*

Our initial review suggests that the proportion of the UOP budget which is currently allocated centralized IT expenditures – about 5-6 percent – is generally in line with (although possibly a bit below) IT expenditures for Pacific's peer institutions and also across academic world in general.⁴ For comparison purposes, data from a custom report prepared by Campus Computing for Pacific in 2004 reveal that in fall 2003, IT expenditures for a self-selected group of 17 peer institutions accounted for 7.2 percent of total institutional expenditures. (The Campus Computing data reflect estimates for *all* IT spending, not just central IT services.)

Not surprisingly, some major pockets of Pacific's IT investment and expenditures are found within the satellite campuses and at some schools, notably pharmacy and business; these expenditures are not (as best we can tell) reflected in current IT resource allocation figures. Too, we note that some portion recent IT budget expenditures at Pacific have been allocated to various "catch-up" infrastructure, ERP, and service expenditures required to bring IT resources and services to levels that are on par with peer institutions and consistent with the (base) expectations of the University's IT clientele.

Additionally, and as noted above, Pacific, like other institutions, continually confronts new demands for IT services (e.g., wireless and electronic portfolios) and core infrastructure enhancement (e.g., network and data security; disaster recovery and data back-up). Some of these new demands are predictable and can be managed over time through the budget process; others may emerge quickly and will require an almost immediate response that can play havoc with an established budget.

We agree with campus officials and in particular the CIO that the University's MVP – mission, vision, and priorities statement – should help drive IT priorities and investments.⁵ Beyond core infrastructure and operational requirements, we believe that the first objective of any new IT initiative focus on investment in areas that (a) offer clear revenue enhancement opportunities, (b) result in measurable efficiencies, or (c) provide significant service improvements. Holding IT accountable for contributing to improved revenues, enhanced services and more efficient current operations should be a priority for senior campus officials.

How does the University move from vision to policy and implementation? Consider the issues of recruitment and retention. During our initial conversation with the president and the

⁴ Fredrick, Larry. *A CIO's Overview of Information Technology at Pacific*, January, 2006. This was the first document in the briefing book provided to the consultants.

⁵ Fredrick, Larry. *CIO Overview*: "The CIO hopes that a new MVP [statement] will provide better guidance to Pacific in terms of [the university's] focus for IT" (p. 6).

provost, the president specifically cited “recruitment and retention” as one of his top priorities. These issues could provide clear and measurable objectives against which to benchmark IT performance in the different units, particularly new expenditures in IT resources and services presented as an *investment* in recruitment and retention. Identifying the outcomes measures – how an IT investment contributes to improved recruitment and retention – will require collective action and cooperation among and between academic and support units; it should discourage “silo” behavior. Allocating financial resources for an IT investment to support the vision of improved recruitment and retention would be the key step in the IT policy realization and change process.

Similarly, IT investments to support and expand Development efforts – to generate more money from alumni and other individual and corporate donors – should also be subject to similar outcome metrics.

On a related matter, any conversation about IT resource allocation (at Pacific or elsewhere) implicitly involves the IT budget process. Our campus interviews suggest that many individuals across key operating units do not have a clear sense of IT budget process. IT staff, as well as others from outside of OIT, expressed frustration at being forced (their words) to present all budget items as projects. Indeed, as noted above, the verb to “projectize” emerged from almost all levels as the operational term for the budget process for IT. Many of our interviewees offered only (intense) criticism for what seemed to be a stream of unending IT projects – projects that emerged from OIT with no clear sense of institutional or departmental priorities or clear outcomes/benefits.

In defense of OIT, the effort “to projectize” may reflect an attempt to be clear about the *full* (initial and recurring) costs of any and every request for IT resources and services, ranging from site licenses to new hardware to custom coding. In an environment marked by flat funding and rising demand for IT resources and services,⁶ “projectizing” may reflect an attempt to have campus officials outside of OIT do triage and establish clear IT priorities.

However, our conversations with administrators, faculty, and staff across several campus units suggest that “projectizing” has created some potentially serious problems. For example, some cited critical software licenses: operationally, software and digital content licenses should be viewed as a core/recurring IT cost, not as an IT project. These and other clearly related recurring costs – core staffing, equipment upgrades, security expenses, etc. – must be properly budgeted. At this level – core and recurring infrastructure expenses – IT must be viewed as a campus utility (like electricity or water) and receive appropriate resources for core expenditures. In this context, IT is an operating expense, not a one-time capital expense.

“Projectization” also brings us back to IT priorities, as reflected in the budget process. The CIO suggests that multiyear IT funding would help OIT set priorities and do better planning – for OIT and for other units dependent on OIT for technology resources and support: “we could produce multi-year draft prioritized plans for discussion with constituency groups. Perhaps some governance committee could overlay institutional goals and give the final blessing.”⁷

While hard institutional commitments for multiyear IT budgets may not be an immediate option at Pacific, we suspect that multiyear IT planning would help OIT, other OIT-dependent units, Cabinet officers, and the Regents. Admittedly, “stuff happens” that has consequences for campus budgets in general and IT budgets in particular. But multiyear planning would probably

⁶ Fredrick, Larry. *A CIO's Overview*: “OIT is currently in serious financial crisis due largely to historical artifacts of the budgeting process... OIT has a flat budget [while] expenses rise each year due to systemic vendor increases. Four years of inflation have taken their toll. In FY06, OIT cut all training and all training-related travel. It eliminated its internal desktop refresh and shaved another \$25k across the board from operational expenses.”

⁷ Fredrick, Larry. *IT Panel Consultation Briefing Book*. Introduction to section on IT priorities.

add some much needed transparency that would be (should be!) welcomed by a range of academic and administrative units that have questions about the OIT process for project triage and budget development.

For example, consider (again) Development as a case study for multiyear planning that involves OIT and other campus units. A clear presidential (or Regents) directive that says “we must enhance our Development initiatives to foster stronger links to our alumni and to generate more contributions from alumni and other potential individual and corporate donors,” should be followed by a carefully conceived three-to-five year plan that focuses on program goals, IT requirements, and clear outcome metrics. The budget plan should address initial as well as longer-term (recurring) operating costs, similar to a plan to fund, design, construct, and maintain a new building.

To facilitate transparency about long-term IT planning, we recommend that a new IT planning task force, convened by the president and chaired by the provost. The task force would have a governance structure of its own: key participants, appointed by the Cabinet, would represent the academic and operating units that require long-term IT investment over a three or five year period.

This task force might be viewed as the latest incarnation of the University’s IT advisory committee. This oversight group/task force would come close to the old ITPC but with a very specific charge and a clear mandate from the president to produce results. Long-term IT investment – for Development, for recruitment/retention initiatives, to upgrade ERP systems, etc – could come, in part from the projected budget surplus and from other sources.

Given some of the campus skepticism regarding IT initiatives, a publicly announced “set aside” of several million dollars will go a long way to gain campus support for a broad set of IT initiatives that (a) are clearly linked to mission, (b) have clear outcome metrics, and (c) have clear leadership coupled with transparent budgeting processes. Understandably, this new strategy will need Regents approval, which will no doubt require some seeding conversations ahead of formal presentations.

4. Evaluate the Office of Information Technology’s IT planning and its relation to University Planning. How can University Planning set a clearer institutional goal or pathway for IT Planning?

Our exit conversations with the president and the provost focused, in part, on the need for a more explicit link between MPV (mission, vision, and priorities) and IT planning. Our campus conversations suggest that this more explicit link would be welcomed by virtually all the University’s IT constituencies, including the CIO and the CFO. A key benefit of more explicit linkage between MVP and IT planning is that it moves the (at times contentious) IT discussions from a focus on products and budgets (and “stuff for my unit or my program”) to the more pressing institutional priorities of mission, benefits, metrics, and outcomes.

While the operational responsibility for linking MVP to IT planning and budgeting resides with senior campus officials, we believe the discussion also involves the University Regents. Specifically:

- *Information and knowledge are strategic assets of the University.* While individual Regents may be more comfortable with traditional presentations about endowments, physical plant, and finances, as a group they also need to be well informed about the tactical and the strategic value of information technology at Pacific, particularly as this now represents a significant category of institutional expenditures and strategic investments. The recommended strategic framework for linking mission to

technology investments (discussed below, see pp. 13-15) may provide a structure that will foster the engagement of individual Regents in IT issues.

- *The Regents are responsible for evaluating the performance of the President and of campus operations.* In today's environment of ubiquitous technology and high expectations for technology resources and services, the Regents cannot make an informed assessment without direct knowledge about how senior campus officials and the deans envision and implement information technology and knowledge strategies that serve the mission of the University.
- *Operationally, the Regents will need to support the recommendations from the president, provost, and Cabinet (including the CFO and CIO) regarding tactical and strategic investments in information technology – significant, multiyear investments that have important financial and programmatic consequences for the University.* Our campus conversations suggest that Regents, as a group, lack a sophisticated (and equally-important *education-focused*) understanding of information technology issues and investment strategies. To secure the Regents' support for long-term IT plans and investments, we recommend that president and provost, along with the CFO and the CIO, develop a long-term strategy to enhance the Regents' understanding the key IT challenges confronting the University. These briefings should not focus on the technology issues or products *per se*, but rather emphasize technology investments in the context benefits and outcomes, as outlined in the strategic framework described below (pp. 14-16).

Substantively and symbolically, we believe the various academic and operational units would benefit from IT advisory committees composed of non-university personnel: informed alumni, industry experts, and academics or administrators from other campuses. These groups would act as advisors and advocates, helping the president, the provost, the Cabinet, and also academic programs and administrative units stay current with new and emerging technologies and best practices that could affect (benefit) academic programs and institutional services and operations. (A secondary benefit of these various IT advisory committees is that they may be a catalyst for individual and corporate engagement with the University – engagement that could provide long-term financial returns as well as other significant benefits.)

5. Identify options or opportunities for Pacific to use IT to increase revenue and/or national standing.

The most obvious - and immediately “profitable” - area for IT investment is to use information technology to support development efforts. Specifically, Pacific should explore development (CRM) systems that will help generate major new revenues from donors. The low proportion of alumni participation in the University's development initiatives provides many opportunities for IT to reinforce and improve the development function – not just targeting individual alumni donors but also in the areas of grants management and perhaps even corporate support.

Beyond an IT investment in Development, a major opportunity for IT investments to generate “new” revenues may come from making the core operations of the University more efficient. The foundation or organizational capacity is in place to leverage what Pacific does: the “business” of education. For example, as noted above, continuing investments to upgrade other components of the University's core ERP modules (e.g., Student Information System, Financial System) – and analytic tools to exploit the ERP – should generate timely and useful data, information, and insight that will aid and inform institutional planning and decision-making. But the investment in ERP enhancement and analytics should not be viewed as a *new* investment in IT *per se*, but rather as part of the necessary and continuing investment in IT (ERP) infrastructure and resources.

With regard to academic programs, we see limited options for a “breakthrough” IT investment that will generate significant new revenue or significantly enhance the university’s academic reputation. As with administrative operations, the University will have to make continuing investments in IT-based resources and services to support academic programs and provide academic services just to stay even – just to maintain the rising base level of services – expected by students and faculty. Here, as elsewhere with IT, the campus (like other colleges and universities) is captive to the “rising lowest common denominator” of student and faculty expectations for IT resources and services.

Is there a way for Pacific to make a “breakthrough” investment in IT that might enhance the national standing of the University’s undergraduate program or of specific professional programs? Probably not – or not without a clear curricular vision for IT and not without significant investment and commitment. The options for “breakthrough” investments in academic programs are few, well-defined – and *very* expensive. That’s not to say that it could not be done. But it would involve a major shift in institutional strategy.

Save for a campus commitment to a ubiquitous computing/notebook computing initiative similar to programs at Seton Hall or Wake Forest, the undergraduate program at Pacific *will not* enhance its “national standing” via an investment in technology. There are other ways to enhance standing and reputation; but save for a ubiquitous computing initiative, investing in IT *per se* will not do it. Moreover, our campus conversations in February suggest that Pacific seems unlikely to move towards a ubiquitous computing strategy in the undergraduate program. Several factors appear to bode against a ubiquitous computing strategy at Pacific:

- *ubiquitous computing initiatives are expensive.* Although private colleges attempt to recover some of the costs of ubiquitous computing programs via tuition increases, the programs do not generate revenue. Moreover, because of tuition discounting, the institutions ultimately pay for a portion of each student’s computer, in addition to the continuing (operating) costs associated with user support and IT infrastructure. Specifically, if the tuition discount rate at Pacific is 30 percent, then Pacific will ultimately pay for 30 percent of the computer for each (and every!) student, regardless of financial aid status. Additionally, ubiquitous computing initiatives do not necessarily reduce traditional user support costs or other IT expenditures; rather, ubiquitous computing initiatives typically shift IT costs.
- *ubiquitous computing initiatives require a compelling curricular vision for the role of information technology.* The ubiquitous computing programs at Seton Hall, Wake Forest, Valley City College and perhaps some five or six dozen other (primarily private) institutions are built on a compelling vision for the role of computing, information technology, and eLearning in the undergraduate program. The ubiquitous computing campuses have invested significant time and resources to define that compelling vision and to develop plans to implement the vision and integrate technology into the curriculum. Implementation does not mean that all courses are “wired.” However, it does mean that the decision to “go ubiquitous” involves more than distributing notebook computers to students to facilitate their access to email and web sites.

Our campus interviews with students, faculty, staff, deans, and other campus administrators revealed real appreciation for the University’s past investments in the IT infrastructure and strong support for the continuing enhancement of information technology resources and services. But the interviews did not reveal elements (or evidence) of a cohesive and compelling *curricular vision* for the role of information resources in the *undergraduate* program. Absent a significant change in institutional strategy, we suspect that Pacific, like most residential undergraduate institutions, will continue to encourage students (i.e., specifically undergraduates) to bring their

own computer to college rather than to provide a computer to each student as part of the matriculation experience (and tuition expense).

Under these circumstances, what then is the link between IT investments and institutional reputation? As noted above, the University will need to continue to invest in information resources and IT-based service enhancements because (a) it is in the best interest of the University to do so; and (b) *not* to do so would indeed harm the University's reputation, as reflected in the assessment of prospective undergraduate and professional students. In other words, IT investments will not necessarily provide a competitive advantage for Pacific, but failure to invest in the continuing enhancement of the University's academic and administrative IT resources and services could become a competitive liability, given the expectations of potential students for a wide array on IT-based information resources and services.

If IT investments will not advance the institutional reputation or enhance Pacific's regional and national ranking, can a targeted investment in some aspect of IT/eLearning generate revenue?

Probably. There are several options that Pacific could explore for as part of the continuing effort to increase tuition revenue. Perhaps the most obvious (and least risky) strategy would be to launch some carefully crafted online (or hybrid) continuing education courses or certificate (but *not* degree) programs that leverage the curricula, reputation, faculty, and related resources of the University's professional programs in law, pharmacy, dentistry, and business. This strategy would build on the current activities and emerging offerings of the University's Center for Continuing and Professional Education by supplementing the Center's current evening and weekend courses with online classes and certification programs.

The institutional models here include Lesley University (Boston) and Azusa Pacific University (CA). These institutions (and others) have gone online with a "mission and market strategy" that "protects" a distinct undergraduate mission (liberal arts and a long history as a women's college at Lesley; a strong and proud evangelical tradition at Azusa Pacific) but "goes to the market" – and goes online – in graduate education. Lesley is now one of the largest (if not the largest) provider of online master's programs in education in the US; Azusa Pacific has launched what appear to be successful online graduate programs in education, business, and information technology (masters degree in information systems).

Following the "mission/markets" model described above, there are several reasons why Pacific might focus on online graduate and professional development programs for additional tuition revenue:

- these programs target a core clientele (program alumni) that already is familiar with (and presumably supportive of) the University and its professional programs.
- professionals in these fields recognize the need for continuing education. They are often are under mandate from their firms/employers and/or licensing boards to participate in continuing education programs. Moreover, many professionals receive reimbursement from their employers for participation in continuing education programs.
- continuing education (or short-course certificate) programs do not cannibalize the clientele for current academic degree programs.
- compared to the cost of developing new courses and curricula, continuing education courses may require less investment on the part of participating faculty during the development and implementation cycle.

What about revenue opportunities beyond formal/online continuing education programs (or even some carefully crafted and targeted online professional degree programs? The growing popularity of Web-based video archives and podcasting (including video podcasting) may also

provide some (generally lower-cost) options for Pacific to enter the (spot?) market for continuing education in targeted fields. Would Pacific alumni pay a fixed fee – say \$5/10/25 for a lecture (or several lectures and accompanying curricular materials) – that also included CEUs or other kinds of short-course certification? Alternatively, perhaps another (supplemental) business model involves a subscription option to CEU podcasts, with discounts for members of the alumni association.

Beyond online programs serving the domestic market, overseas programs that leverage Pacific’s alumni base may also pose some interesting opportunities. The Provost mentioned some 200-plus alumni of the engineering program who live in Kuwait. Given the Kuwaiti alumni cohort experience with Pacific and what may be likely individual alumni ties to the various medical, educational, government, and business communities in Kuwait and throughout the region, the Kuwaiti alumni (along with other Pacific alumni in the Gulf Region) may be well-positioned to help the University develop the necessary local partnerships that would lead to (a) co-branded *online* professional development programs in engineering, pharmacy, law, business, and dentistry and (b) jointly-developed *on-site* professional programs in selected health care/professional fields.

Additional Comments and Suggestions

Beyond the five issues identified by the provost that provided the focus our review, we offer some additional comments and suggestions related to IT planning and policy issues at the University.

A New Framework for IT

In our meetings with the president and provost we suggested a new terminology and strategic framework the campus (and Board) discussions about information technology, focused on four strategic uses of information technology. The four strategic uses of information technology focus on:

- *Infrastructure.* These are the basic “utilities” of information flow, security and access. Infrastructure also includes IT personnel (individuals who work in back rooms and at help desks) and other types of IT resources such as training – for IT personnel and also for other members of the University’s user community. Just as with electricity and water, the University must decide on base (or minimally acceptable) levels of resources and services (network access; user support, wireless, help desk services, equipment and network upgrades, server capacity, etc.). It must then commit to fund the infrastructure services as part of a base budget.

One inferred advantage in technology infrastructure is “Moore’s Law” and the doubling of capability every 18-24 months – often for the same or less cost for key hardware components. (This is clearly not the case for energy or water – or for personnel!) Accordingly, careful planning and thoughtful policy decisions will ensure that actual (or inferred) savings are reapplied first and foremost to the University’s key IT priorities and not unilaterally decided within OIT or arbitrarily moved to other units. Additionally, campus officials must be sensitive to the “rising lowest common denominator” that affects infrastructure expectations. Both new technologies (e.g., fiber or wireless networks) or external events (e.g., disaster planning, viruses, and network security) can raise the levels of or expectations for “base infrastructure” services and support.

- *Academic support/student learning/student centered activities.* Academic support and student learning/student centered activities focuses on the role of information resources and services to support the academic mission of the university and support specific

academic initiatives: teaching, learning, research, and scholarship. We cite the broad deployment of Blackboard at Pacific as a good example of academic support/student centered activities. Also in this category would be the online resources available through the University's various libraries, plus the application of technology in instruction and simulations in the Dental School.

Here as with IT infrastructure issues, we caution campus officials about the rising "lowest common denominator" of expectations for technology resources and services that support the academic mission of the University. The recent (20 year) history of technology products, resources and services across campus, corporate, and consumer markets, reveals that the new and unique quickly become ubiquitous – *and expected*.

- *Administrative excellence.* Administrative/operational excellence specifically focuses on process improvement in all operational and administrative areas. The initial focus here should be on those investments that appear to offer the most improvements in services to students combined with cost reduction opportunities (e.g., integration of student service units Bursar, registrar and financial aid initially and later dining and residential life.) This strategic area would also address the CFO's request for "data mining" and improved analytical capability for more effective do financial analysis, reporting and budget control.
- *Relationship management:* Relationship management emphasizes the systems and operations that serve alumni and support development as well as student service systems such as registration, financial aid, and bursar office functions, plus the campus website and portals, etc. We recognize that this category overlaps in some ways with the others. But we feel relationship management is a key issue for all campuses – and in particular for Pacific, given the concern about the low levels of alumni participation in development efforts.

Rather than focus on technology *per se* (hardware, software, supporting personnel, etc), the strategic framework outlined above focuses on the campus *vision* for information technology. It is a vision that is explicitly linked to institutional mission and helps guide planning, policy development, prioritization (triage), and implementation efforts. The strategic framework outlined above forces a series of questions, all linked to institutional mission:

- How do technology investments help advance the mission of the University?
- How do choices about technology resources and services support teaching, promote student learning, advance scholarship, and support research?
- How do investments in technology contribute to administrative excellence – to enhanced administrative services for our clientele, more effective administrative and operational activities, and to the better use of data and information in planning and decision-making? and
- How can information technology at the University of the Pacific foster and improve the University's *institutional* relationships with and among students, faculty, staff, administrators, alumni and other previously-unaffiliated individuals, organizations, and corporations?

We discussed the advantages of this strategic framework during our exit briefing with the president and the provost. A key advantage of this framework is that removes the "T" word from of the conversation and consequently forces the Cabinet and others (including, perhaps, the Regents) involved in the IT discussions and IT planning to focus on the "systemic" needs of the University. Within this framework campus officials (and the Regents) can bring together task forces (governance groups) to oversee vision, articulate mission address planning needs, also

design and implement critical, high value initiatives targeting alumni/development efforts, recruitment and retention, and academic program enhancement.

This four-part strategic framework fosters the development of clear IT goals and objectives. Moreover, it helps to identify specific outcomes for *all* campus officials involved in IT planning in each of the four strategic areas. For example, consider to the recommendation above regarding a long-term IT investment to support Development efforts: clear outcome metrics for this investment would include the number of accurate alumni profiles, rapid receipt and acknowledgment of gifts, and a growing research file of high net worth alumni and potential donors. Similar metrics can be established for other issues and initiatives.

In this context, the role of information technology – and specifically Pacific’s Office of Information Technology – is to support the institutional mission, and by extension, educational and institutional outcomes that stem from the mission.⁸ Referring again to Development as an example for a targeted IT investment, senior campus officials do not need to be technology experts to respond to donors in a timely manner. If there are implementation or operational problems, it is almost certain that technology issues are not the only problem in the mix.

Here and elsewhere, the active and continuing engagement of senior campus officials, including a Cabinet-level champion, is essential. “Cabinet Champions” must understand it is their responsibility to ensure that the specific projects are successful and that processes work. The involvement of “Cabinet Champions” is not an endorsement for micromanagement. Rather, the “Cabinet Champions” model recognizes that process problems most often occur at the interface of transactions (often between offices and operating units), and there are problems that staff who work at the transaction level can’t solve on their own. Management - “Cabinet Champions” – must be engaged; they cannot respond to or explain transactional and implementation problems away by stating that “low level work is someone else’s problem.”

Technology is an Operating Cost

Colleges and universities spend millions each year on “technology.” As is the case at Pacific and elsewhere on campuses across the country, labor often represents the largest actual “bucket” of technology expenses. But most of us see and describe technology as products and services (hardware, software, licenses, etc.) and not labor. Consequently, we’re often inclined to view IT as a capital investment, when in fact technology is really an operating cost.

We saw ample evidence of this capital investment perspective in our conversations at Pacific and in the briefing book prepared for the visiting team. The president and the provost expressed concern about the “black hole” of technology funding, asking, in essence “when we will have caught up, when will we have spent enough on infrastructure?”

Concurrently, what some on campus seem to view as the “black hole” of IT budgeting was reflected in what many described as the CIO’s efforts to “projectize” almost everything under the IT umbrella, from code work to digital content and software site licenses. As noted above, while the “projectization” process could also be viewed as a “full cost/full disclosure” strategy, it is a strategy that indirectly reinforces the notion of IT as a capital cost – money spent to buy or do something, rather than expenditures for resources and services (including personnel) as recurring investment required to maintain/upgrade resources or services.

The experience at Pacific and elsewhere over the past two decades highlights the continuing challenges of addressing the real costs of information technology. Without question, technology

⁸ The “CIO’s Overview of Information Technology at Pacific,” the first document in our briefing book, includes the CIO’s stated hope “that a new MVP [mission, vision, priorities statement] will provide better guidance to Pacific in terms of its focus for IT” (25 Jan 2006, p. 6).

is an *operating* expense. Moreover, “stuff” happens that plays havoc with the efforts of campus officials to develop comprehensive technology plans.

- *Technology happens!* New technologies move from cute to compelling in short order and in a way that undermines the assumption that planning can/will map the future with reasonable certainty. Campus officials can only map the future with certainty if they know the future; in contrast, technology reflects a world where change is the only constant – and it is a fast-moving constant at that.

Think here about the emergence of desktop computers, the Web, and wireless: in each instance each technology moved from cute (early adopters) to compelling (mainstream) in a relatively short period of time. Campuses that had a strategic plan for IT in 1982 would have found their plans of limited value by 1985 because of the rapid deployment of desktop computers. Similarly, institutions that had a strategic plan for IT in 1994 would have found those plans useless by 1995 or 1996 because of the emergence (indeed explosion) of the Web during the mid-1990s – and by extension, services on/over the Web. (Clearly the Web has had a major impact on expectations for and the definition/structure of administrative IT services, parallel to the impact of IT on teaching, instruction, scholarship, and learning.) In each instance, colleges and corporations had to play catch-up in their budgeting of total IT costs – hardware, software, personnel, services, etc – to capture the short- and long-term benefits and to catch-up with user/client expectations.

- *Other stuff happens!* External events impinge, implode, or explode on university plans and IT planning. These external, non-IT events affect strategic plans and, by extension, demands or expectations for IT resources and expenditures. In this context, consider that until recently, IT security was almost an afterthought in IT planning for crisis management and disaster recovery.

The realities of IT funding as an operating cost are not unique to Pacific. It is common throughout higher education and also across public sector and not-for-profit organizations. However, as best we can tell this perspective has not (yet) been internalized at Pacific, either in informal conversations or the more formal budget process. The CIO appears to recognize these issues; conversations with the provost suggest he also understands the structural nature of IT planning and budgeting (even as he asks when/if the funding demands will end, or at least decline.) But the notion of IT as an operating cost (not a capital cost) has not become part of the broader campus (and, probably Regent) conversations at Pacific.

Today, according to data from The Campus Computing Project, campus IT officials identify IT and network security as “the single most important IT issue confronting their institutions over the next 2-3 years.”⁹ Consequently, across all sectors, colleges and universities are spending significant sums on IT security (hardware, software, and personnel) that were not in their budgets five years ago – or even two years ago. Similarly, the events of 9-11, followed more recently by Katrina, have highlighted the need for institutions to focus on IT disaster planning and recovery as part of a larger institutional investment in strategic planning and crisis management.¹⁰

Back to the Well: A New IT Task Force

⁹ Green, *Campus Computing 2005: The National Study of Computing and Information Technology in American Higher Education*. Executive summary available on the web: www.campuscomputing.net.

¹⁰ See, for example, the article by Mitroff, Diamond, and Alpaslan “How Prepared are America’s Colleges and Universities for Major Crisis,” in the current (Jan-Feb 2006) issue of *Change* magazine.

Elsewhere in this report (p. 9) we recommend the creation of a new, long-term IT planning task force, chaired by the provost, reporting to the Cabinet. We feel that with a specific mandate – long-term IT planning and budgeting, linked to the University’s mission and vision – coupled with careful planning and vetting, this new task force may succeed where others succumbed.

We know that the demise of three prior IT advisory committees will cast a long shadow over any new efforts and groups. However, we believe what should differentiate this new IT task force from its predecessors is the mandate, from the president, to focus on long-term planning and budget issues. Additionally, we recommend that appointments to the task force be made by the Cabinet, not deans or unit heads who participate (or send their proxies) to “protect and defend” the interests of individual units and programs.

Summary

The technology issues that confront all campuses today are complex, challenging, and costly. In relatively short time – just two decades – the technologies that are widely deployed on colleges and universities across the country today have moved from cute to compelling, from unique to ubiquitous. At Pacific and elsewhere, students of all ages come to campus to *learn about* and to *learn with* technology. Both the eighteen-year old “digital natives” who reside in campus resident halls, as well as their parents who may be enrolled in continuing or executive education programs, have expectations about campus IT resources and services that are based, in part, on their experiences as consumers: more, faster, better, cheaper and, again, ubiquitous.

We believe that Pacific has made significant progress on key IT infrastructure, resource, and service issues over the past five years. Our conversations on campus in February suggest that the University community is pleased with and appreciates the improvements in technology infrastructure, access, and services. Concurrently, Pacific officials recognize the growing demand for IT resources and services and the need for continuing investments in IT that will help advance the university’s mission, enhance the academic experience, and improve administrative services. In the long run, a comparatively small but focused investment in specific IT areas, coupled with a new strategy regarding IT planning, could help the University become one of the leaders in technology driven “knowledge management” for greater efficiencies and ultimately greater impact in its core mission of education.

Appendix A

The Consultants

WILLIAM E. BERTRAND (chair) is the Co-Director of the CDMHA and also director of the Payson Center for International Development and Technology Transfer at Tulane University. He also holds an endowed chair in public health and has served as Chair of the Department of Epidemiology and Biostatistics and Chair and Founder of the Dept. of International Health. He has been involved in the study of disasters and the disaster to development continuum since the mid 1970's. He was one of the early users of information technology in the social and health sciences. In addition to his current appointments at Tulane, Dr. Bertrand has also served as the University's Vice President of Institutional Planning, Research and Innovation.

Dr. Bertrand pioneered the use of microcomputers in Africa in the early 1980's by setting up one of the first computer based surveillance and information systems in Niger and in other Central African Countries. Based on a model he developed and pilot tested in the early 1980's in Bolivia, Dr. Bertrand was one of the developers of the USAID Famine Early Warning System which has operated for nearly 15 years now as an effective early warning information system predicting disasters in Africa. He has been one of the first to apply information technology to higher education in the United States and abroad.

Dr. Bertrand has served as consultant to such organizations as the World Bank, USAID, the Inter-American Development Bank, Kenya's Ministry of Health and the Haitian School of Public Health. In addition, he has done substantial research in the field of public health in Latin America and Africa, in areas of disease and nutritional surveillance, health policy and planning and the integration of new information technology into the social sector. Dr. Bertrand has over 60 scientific publications and over 200 presentations at professional meetings or advanced seminars. Bertrand earned his Ph.D. in Sociology and Demography from Tulane University in 1972. He has previously served as a consultant on IT planning for the University of the Pacific.

KENNETH C. GREEN is the founding director of The Campus Computing Project, the largest continuing study of eLearning and Information Technology in American higher education. Begin in 1990, the Project is widely cited by both campus officials and corporate executives as a definitive source for data, information, and insight about eLearning and IT issues affecting American colleges and universities. Campus Computing is also the model for affiliated research projects underway in Brazil, China, Canada, and India.

A visiting scholar at The Claremont Graduate University, Green is the author/co-author or editor of a dozen books and published research reports and more than three dozen articles that have appeared in academic journals and professional publications. Now in its sixth year, *DIGITAL TWEED*, Green's monthly column on technology and higher education issues, appears in *Campus Technology Magazine*. An invited speaker at some two dozen academic conferences and professional meetings each year, Green is also is the co-executive producer and on-air host of the award-winning *Ready2Net* programs, a series of satellite broadcasts and Webcasts focused on the challenges and opportunities that information technology presents to American higher education (www.csumb.edu/ready2net).

In October 2002, Green received the first EDUCAUSE Award for Leadership in Public Policy and Practice. The award cites his work in creating The Campus Computing Project and recognizes his "prominence in the arena of national and international technology agendas, and the linking of higher education to those agendas."

From 1989 to 1994, Green was a senior research associate (1989-1991) and later director (1991-1994) of The James Irvine Foundation Center for Scholarly Technology at the University of Southern California. Prior to his affiliation with USC, Green held concurrent appointments from 1983-1989 as the associate director of UCLA's Higher Education Research Institute and as the associate director the American Council on Education/UCLA Cooperative Institutional Research Program (CIRP), the nation's largest and oldest empirical study of higher education. A graduate of New College in Sarasota, Florida, Green completed his master's degree at the Ohio State University and earned his Ph.D. at the University of California, Los Angeles.

JAMES E. MORLEY JR. is the president of the National Association of College and University Business Officers (NACUBO). Prior to his NACUBO appointment in 1995, Morley spent ten years at Cornell University, serving first as Vice President and Treasurer and then as Senior Vice President. His years at Cornell were preceded by appointments as Vice President, Finance and Administration at Rensselaer Polytechnic Institute; Vice President, Business and Finance and Treasurer at Rider College; and, Comptroller at Syracuse University. He was also affiliated with the New York office of Ernst & Ernst as an Auditor/Management Consultant.

Morley was instrumental in establishing the School, College and University Underwriters Limited (SCUUL), an offshore insurance company for colleges and universities. He served on the Board of SCUUL from 1986 to 2000. He has chaired the board of the Emma Willard School in Troy, New York since 2000 and has served on the board since 1994. He has been on the board of the National Grange Mutual Insurance Company since 1994, chairing the audit committee. He has served on and chaired or been president of several other boards, including the United Educators Risk Retention Group; the Tompkins County Foundation; SCT Education Advisory Council; and the IBM Education Policy Council.

Morley's affiliation with higher education associations include the Eastern Association of College and University Business Officers (EACUBO), where he served on the Board of Directors from 1983 to 1989 and as President from 1984 to 1985. He is a former member of the NACUBO Board of Directors, serving from 1985 to 1988 and is a 1993 recipient of the *Distinguished Business Officer Award*, the association's highest honor. He also served on the American Council of Education Board of Directors from 1997 to 1999.

As President of NACUBO, Morley continues to spearhead various efforts to remain in the forefront of the ever-changing world of higher education including NACUBO sponsored projects related to TRA97 tax reporting requirements, college costs, total quality improvement, and institutional student aid.

Morley received his undergraduate degree in mechanical engineering from Rensselaer Polytechnic Institute, and earned a M.S. in accounting from Syracuse University. From 1962-69, Morley was on active duty in the United States Marine Corps from 1962-67 and holds the rank of colonel, retired in the USMC Reserve.

Appendix B

Interviews and Meetings, February 2006

Thursday 2 February		Friday, 3 February	
7:30 - 9:00	Donald DeRosa, Philip Gilbertson and Julie Sina	8 :00 – 9 :00	Katherine
9 :00 – 10 :00	Philip Gilbertson and Larry Fredrick	9 :00 – 10 :00	Larry Fredrick
10 :00 – noon	Faculty and Dr. Art Dugoni	10:00 – 11:00	Pacific Student
Noon-1:00	Pat Cavanaugh and Senior Finance Staff	11:00 – noon	Stockton Council of Deans and Elizabeth Rindskoph
1:00 – 2:00	Pat Cavanaugh	Noon – 1:00	Larry Fredrick, Michelle Dominiak, Robert Henderson, Jim Philips, and other members of the IT Panel
2:00 – 2:30	Marisa Kelly	1:00 – 2:00	Selected Administrators
2:30 - 4:00	Institutional Priorities Committee	2:00 – 2:30	Staff Advisory Council
4:00 – 5:00	IT Panel Conference	2:30 – 3:00	Beverly Byl and Cathy Dodson
6:30 – 8:30	<i>Dinner meeting:</i> Philip Gilbertson, Larry Fredrick & Jonathan Brown (AICCU)	3:00 – 3:30	IT Panel
		3:00 – 5:00	<i>Exit Meeting:</i> Don DeRosa and Phil Gilbertson
		6:30 – 8:30	<i>Dinner Meeting</i> with Philip Gilbertson