



UCSB Audit and Advisory Services

Internal Audit Report

**Financial System Implementation Project (FSIP)
Limited Scope Progress Review**

April 1, 2014

Performed by:
Antonio Manas-Melendez, Senior Auditor

Approved by:
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Report No. 08-14-0006

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AUDIT AND ADVISORY SERVICES
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April 1, 2014

To: Brian Richard, Director, Enterprise Planning and Architecture
Enterprise Technology Services

Jessie Masek, Financial System Project Manager
Enterprise Technology Services

Re: **Financial System Implementation Project (FSIP)**
Limited Scope Progress Review
Audit Report No. 08-14-0006

As part of the 2013-14 annual audit services plan, Audit and Advisory Services has completed an audit of the University of California, Santa Barbara (UCSB) Financial System Implementation Project (FSIP). This audit was a Limited Scope Progress Review, performed as part of a series of audits designed to support FSIP efforts. Enclosed is the report detailing the results of our review.

The purpose of this review included determining the status of issues reported in two previous reports issued in fiscal year 2012-13:

- *FSIP Project Progress Review*, which addressed issues related to project oversight and governance, organizational readiness and training, adequacy of resources, and other areas.
- *Financial System Implementation Project: Campus Use of Shadow Systems*, which examined and documented the campus reliance on shadow systems.

Our audit also included review of compliance with selected provisions of UC Policy BFB IS-10, *Systems Development Standards* (Policy IS-10), including requirements related to the approval of functional specifications and change management and maintenance.

Our review found that there has been significant progress on the issues addressed in our previous reports; the results of our work also indicate that the project is in compliance with Policy IS-10 in the two functional areas we selected for detailed review.

Looking forward to the period following Phase I implementation and to Phase II of the project, our review and consultation with the Enterprise IT PMO have highlighted the following as high risk areas for the campus:

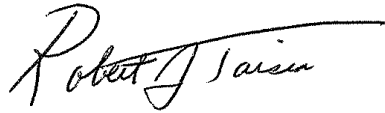
- Requirements and Design in Phase II
- Data Warehouse and Interfaces
- Access Control and Segregation of Duties
- Key Management Reports
- Technical Resources
- Post-implementation Support

Brian Richard
April 1, 2014

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Detailed observations and management corrective actions are included in the following sections of the report. The management corrective actions provided indicate that each audit observation was given thoughtful consideration and that positive measures have been taken or planned to implement the management corrective actions. The cooperation and assistance provided by the Enterprise Technology Services PMO, Business and Financial Services, and other personnel during the review was sincerely appreciated. If you have any questions, please feel free to contact me.

Respectfully submitted,

A handwritten signature in black ink that reads "Robert Tarsia". The signature is written in a cursive style with a long horizontal flourish extending to the right.

Robert Tarsia
Director
Audit and Advisory Services

Enclosure

cc: Chancellor Henry Yang
Interim Executive Vice Chancellor Joel Michaelson
Senior Associate Vice Chancellor Marc Fisher, Administrative Services
Acting Associate Vice Chancellor Pam Lombardo, Administrative Services
Denise Stephens, Interim CIO, Enterprise Technology Services
UCSB Audit Committee
Sheryl Vacca, Senior Vice President and Chief Compliance and Audit Officer
Jim Corkill, Director and Controller, Business and Financial Services
Leslie Griffin, Associate Director, Business and Financial Services

PURPOSE

The purpose of this review included determining the status of issues reported in our previous *Financial System Implementation Project (FSIP) Project Progress Review* report dated May 2, 2013, and our October 5, 2012, report, *Financial System Implementation Project: Campus Use of Shadow Systems*. Our audit also included a review of compliance with selected provisions of UC Policy BFB IS-10, *Systems Development Standards (Policy IS-10)*. This audit is part of UCSB's 2013-14 annual audit services plan and is part of a series of audits and advisory projects designed to support FSIP efforts.

SCOPE, OBJECTIVES AND METHODOLOGY

The scope of this review included the functional areas addressed in the two previous FSIP reviews detailed above, including issues related to project oversight and governance, organizational readiness and training, adequacy of resources, campus use of shadow systems, and other areas. Our scope also included selected provisions of Policy IS-10, including requirements related to the approval of functional specifications and change management and maintenance. The scope of the review was limited to FSIP activities and documentation available through February 6, 2014, as related to FSIP Phase 1 efforts.

Our audit objectives included the following:

- Assess the progress of management corrective actions taken to address previous audit findings related to project oversight and governance, organizational readiness and training, adequacy of resources, campus use of shadow systems, and other areas.
- Update the FSIP risk assessment we completed for our previous audit. The purpose of this risk assessment is to identify and prioritize key FSIP risk areas for additional analysis and audit efforts; we used the updated risk assessment results to select Policy IS-10 areas for coverage during this audit.
- Determine if FSIP is in compliance with selected provisions of Policy IS-10, including the review and approval requirements of Section B.5., *Requirements Definition*, and the requirements of section D, *Change Management and Maintenance Standards*. This included determining whether project plans incorporate the proper involvement of end users and functional leaders during the earlier stages of the project and after the implementation of Phase I.

To accomplish our objectives, we:

- Reviewed and analyzed UC policies and procedures related to system development, including Policy IS-10.
- Reviewed and analyzed FSIP documentation available as of February 6, 2014, including the project charter, project plan, communication plan, project status reports, functional specifications, testing plans and results, UCSB's contract with Ciber, and various other plans, reports, and documents available on the PMO's SharePoint site.

- Interviewed PMO personnel and project stakeholders, and participated in PMO Advisory Committee meetings and weekly project meetings for management.

This audit was conducted in conformance with the *International Standards for the Professional Practice of Internal Auditing*.

BACKGROUND

UCSB implemented its current legacy mainframe financial system over thirty years ago. Over the years, limitations in a number of areas resulted in workaround solutions to meet campus needs, including a wide range of shadow systems and a data warehouse¹. Several campus committees reviewed the legacy financial system, and each committee recognized the need to replace it, citing a combination of technical and resource issues that identified the ongoing operation of the campus financial system as a key campus risk, primarily because:

- The system is written in older programming languages, and is coexisting with outdated and unsupported versions of vendor software.
- Personnel who have the institutional knowledge and the ability to support the system, including the relevant technical infrastructure and programming language skills, are becoming scarce.

The UCSB FSIP began in October 2010 for the purpose of assessing the current financial system's continued operational viability and identifying and evaluating near-term options to replace the system. As part of this evaluation, UCSB contracted with Gartner Consulting to assess the current state of UCSB's financial system, to identify risks and recommend mitigation strategies for each risk, and to identify alternate financial system solutions and approaches. The report recommended purchasing and implementing a comprehensive commercial enterprise resource planning (ERP) system. Following this report, rSmart and IBM were engaged to evaluate the Quali Financial System and Oracle/PeopleSoft Financials, currently in place at three UC campuses: UC San Francisco, UC Riverside, and UC Berkeley. In December 2011, the FSIP Steering Committee unanimously recommended implementing Oracle/PeopleSoft Financials. Additionally, the UC Office of the President chose the Oracle platform for UCPATH, the new systemwide human resources and payroll system, creating an opportunity to leverage synergies between existing products.

In September 2012, the campus contracted with Ciber to implement Oracle/PeopleSoft Financials. FSIP Phase 1 encompasses deployment of General Ledger, Chart of Accounts, Commitment Control (Budget), Accounts Payable, Asset Management, and Project Costing modules, as well as relevant interfaces with campus shadow systems. Implementing these modules will lay the groundwork for decommissioning the legacy mainframe system and proceeding with additional financial modules in subsequent FSIP phases. Table 1 illustrates the modules that are planned for each FSIP phase per the FSIP Project Charter.

¹ A shadow system is any application or database used for business processes that is not provided and supported centrally. A data warehouse is a database used for reporting and data analysis. The data stored in a data warehouse is uploaded from the organization's operational systems, such as the campus financial and payroll systems.

Table 1		FSIP Project Schedule	
Phase	Modules		
Phase 1	General Ledger Asset Management Commitment Control (Budget)	Chart of Accounts Accounts Payable Project Costing	
Phase 2	Contracts Grants Management Purchasing Integration	Billing Accounts Receivable	

Source: Enterprise Technology Services

Initial plans provided for a one-year pause following Phase 1 deployment to allow UCSB to implement UCPATH. At the conclusion of that period, UCSB would move forward with Phase 2, which includes the deployment of Contracts, Grants Management, Billing, and Accounts Receivable solutions. However, the UCPATH project timeline was subsequently revised, and UCSB is now planning to move forward with FSIP Phase 2 immediately after Phase 1 is complete. In addition to the modules listed above, Phase 2 will include business process redesign/improvements as well as required integration with other key campus systems, including the UCSB Data Warehouse, UCSB Procurement Gateway (an e-procurement system), department-specific shadow systems, and others.

A critical FSIP goal is to deliver functionality while valuing configuration over customization. The campus is taking a conservative approach to customization and is utilizing tight project management controls and analysis to ensure this outcome.

Organization

UCSB identified the need for a Program Management Office (PMO) function to help manage this initiative and other critical campus system implementation projects. The Administrative Systems PMO was established in 2012, and a PMO Director and FSIP Project Manager were hired in late 2012. Working with Ciber, the PMO helped to define a structure and methodology for FSIP implementation that did not previously exist on campus.

In June 2013, the IT systems groups in the Office of Information Systems and Technology (OIST) and Administrative Services engaged Gartner Consulting to examine the campus IT organizations and make recommendations about restructuring them and re-aligning the role of the Chief Information Officer (CIO). The recommendation was to merge OIST and the units in Administrative Services engaged in enterprise systems into a single entity. The new organization, announced in October 2013, is called Enterprise Technology Services (ETS). As part of this reorganization, the Administrative Systems PMO has moved from Administrative Services to the Planning & Architecture unit of ETS, and has been renamed the Enterprise IT PMO.

Project Progress and Costs

Since October 2012, the FSIP team has made substantial progress towards the project's Phase 1 goal of implementing PeopleSoft Financials and moving the existing financial system off the mainframe. The team has converted the legacy financial data into PeopleSoft applications, constructed interfaces, and defined reports and workflows that will improve business processes and support the full PeopleSoft Financials implementation.

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In the process of doing this work, the team has discovered that the requirements related to the data conversion, interfaces (113), reports (30), and workflows are higher in quantity and complexity than originally anticipated when the project timelines were formalized last summer. The PMO has worked with the project sponsors and the Ciber team to evaluate the overall impact, and the go-live date is currently being reevaluated. Campus departments will not experience any major changes after the go-live date in Phase 1, with the exception of the accounting and other functions of Business and Financial Services. Phase 2 of FSIP will begin immediately after Phase 1 has been successfully completed.

The UC Office of the President has provided a loan of up to \$19 million to implement and maintain the financial system over the next five years. This loan amount is intended to cover labor, travel, administrative costs, software licensing, maintenance, hosting, application management fees, and consultant implementation costs.

Table 2 includes a breakdown of the project budget based on information provided by the Enterprise Technology Services PMO. Total UCSB salaries and benefits related to the financial system implementation are estimated at \$5.3 million through fiscal year 2015-16. Total costs for Ciber's services were estimated to be \$4.6 million through fiscal year 2015-16; other IT consultant costs were estimated to be \$2.6 million.

Table 2	FSIP Project Budget
Cost Category	\$
Startup Costs pre 2012-13	\$498,823
Salaries and Benefits	5,284,765
Vendor Services, Training & Office Expenses	7,879,110
Oracle Software Purchase	930,942
Oracle Software Maintenance	603,029
Hosting	2,560,000
Contingencies	1,243,331
Total	\$19,000,000

Source: Enterprise Technology Services PMO

According to the Enterprise Technology Services PMO, ongoing costs of approximately \$1.8 million per year are not included in the \$19 million FSIP budget.

SUMMARY OPINION

Based on the results of the work performed, there has been significant progress on the issues addressed in our previous reports, including project oversight and governance, organizational readiness and training, adequacy of resources, and other areas. The results of our work also indicate that the project is in compliance with Policy IS-10 in the two functional areas we selected for detailed review, including requirements related to approval of functional specifications and change management and maintenance.

Looking forward to the period following Phase I implementation and to Phase II of the project, our review and consultation with the Enterprise IT PMO have highlighted the following as high risk areas for the campus:

- Requirements and Design in Phase II
- Data Warehouse and Interfaces
- Access Control and Segregation of Duties²
- Key Management Reports
- Technical Resources
- Post-implementation Support

Audit observations and management corrective actions are detailed in the remainder of the audit report.

² At the PMO's request, Audit and Advisory Services has started a review of FSIP roles and profiles.

DETAILED OBSERVATIONS AND MANAGEMENT CORRECTIVE ACTIONS

A. Status of Issues Addressed in Previous 2012-13 FSIP Reviews

Our 2012-13 *FSIP Project Progress Review* included five comprehensive recommendations related to project oversight and governance, organizational readiness and training, adequacy of resources, and other areas, while *Financial System Implementation Project: Campus Use of Shadow Systems* included one recommendation. The Enterprise IT PMO committed to actions plans, or management corrective actions, within reasonable timeframes in all cases.

Based on the result of the work performed, we found that three of the six recommendations have been fully addressed. For the remaining three, action plans are in place and progress has been made. Table 3 summarizes the results of our evaluation.

Table 3	Status of Management Corrective Actions	
Finding Title	Status	
Consideration of Shadow Systems During Financial System Implementation	Implemented	
More Effective Steering Committee	Implemented	
Improving Communication	Implemented	
Enhancing Organizational Readiness and Training	In Progress	
Adequacy of Resources	In Progress	
Testing and Gap Resolution	In Progress	

Source: Auditor Analysis

1. Consideration of Shadow Systems During Financial System Implementation

Our 2012-13 audit assessed the use of shadow systems on campus and encouraged the PMO to fully consider the campus reliance on shadow systems in the planning and implementation of the new campus financial system. The PMO acknowledged the campus dependency on these systems and committed to minimizing the impact to departments until it had a more complete understanding of each shadow system.

Our review found that shadow systems are being duly taken into account in FSIP design and implementation. No shadow systems will be eliminated as a result of FSIP Phase 1, and there have been substantial efforts to ensure that their functionality is maintained and that proper interfaces with the new system are intact. Importantly, the plans for FSIP Phase 1 support continued, full functionality of the campus Data Warehouse and the roster of reports the campus relies on.

2. A More Effective Steering Committee

Our 2012-13 audit noted that there was not a formally documented FSIP Steering Committee charter, and commented on the size and composition of the committee at the time. We recommended that the PMO develop a formal charter and re-evaluate the membership of the FSIP Steering Committee to more closely align it with the campus units directly impacted by, or involved with, the project's scope.

Since that time, the FSIP Steering Committee has been replaced by the PMO Advisory Committee, and the committee's role has been formalized in an approved charter. Membership has been consolidated in a manner that is consistent with the campus culture.

The newly formed ETS organization is now working with Gartner Consulting to propose a new campus IT governance structure, so there may be further changes regarding the structure and role of the PMO Advisory Committee. The proposed governance structure should be defined by June 30, 2014.

3. Improving Communication

Our 2012-13 audit highlighted a perception among stakeholders that communication was ineffective and not always timely, and we recommended that the PMO continue working with Ciber and UCSB functional teams to improve communication. The PMO committed to several actions to improve communication, including a campus-wide communications network for FSIP and other PMO projects.

Since that time, significant communication vehicles have been implemented or more fully developed. Current communication vehicles include the UCSB Systems Communication Network (a campus-wide communications network), the PMO Advisory Committee, presentations, enhanced newsletters, social media, email list communications, the new ETS website, and a communications survey.

The UCSB Systems Communication Network supports robust communications for PMO projects. At least one person (plus a backup) in each department or organizational unit receives and distributes PMO communications by email. This person ensures that target audiences understand how systems impact their department or unit, and escalates issues to the PMO and/or a liaison on the UCPath Strategic Advisory committee, which has a broad, campus-wide membership. Additionally, this person participates in ongoing campus readiness surveys. Newsletters are sent by email to the contact person in each department and are also uploaded on the ETS website. The newsletters provide relevant information related to IT projects, technology, and ETS news on the campus.

The purpose of the communications survey was to evaluate the impact of PMO communications efforts between August 2012 and August 2013 by measuring perceptions of project awareness, preferred delivery vehicles, and engagement with PMO newsletters and town hall meetings, as well as to receive feedback on how communications can be made more effective, concerns about the projects, and lessons learned from previous system implementations.³

³ Source: Adapted from information on the ETS Website, <http://www.ets.ucsb.edu/pages/systems-communications-network>.

4. Enhancing Organizational Readiness and Training

Our 2012-13 audit commented that FSIP efforts highlighted the need for updated computer skills for some campus personnel, which could impact the success and effectiveness of the transition to Oracle/PeopleSoft Financials. We noted familiarity with modern financial applications and common project team collaboration tools and applications (e.g., web applications, SharePoint, etc.) as areas for which training is required, and recommended to the PMO that a more proactive approach be considered, including performing an evaluation of computer skills and a wider range of training sessions to ensure that campus personnel impacted by FSIP Phase 2 have a common level of computer skills and familiarity with the applications and tools used.

Since that time, an extensive training plan has been developed. However, additional measures should be taken to provide assurance that end users have the knowledge to use the application and provide technical support. Some of these measures are:

- Complete and approve the FSIP training plan. The FSIP training plan includes training objectives, audience, references to the training tool used to provide computer-based training (UPK), training timeline, and other valuable information. However, this document is a draft version and it has not yet been formally approved by stakeholders.
- Develop measures to guarantee that technical knowledge transfer is included in the training plan. Some technical activities that Ciber personnel will perform initially will become the responsibility of a group of end users after Phase I. Technical training should provide the expertise to perform these activities without Ciber's support.
- Perform a survey to request feedback from end users to evaluate the quality of the training, and to validate that users are ready to use the new financial system.
- Obtain formal acceptance and acknowledgement by the stakeholders that the training has been successful.

5. Adequacy of Resources

Our interviews with stakeholders during our 2012-13 audit highlighted risks related to the level of resources allocated to FSIP. The PMO acknowledged challenges in this area, noting that resources such as subject matter experts are difficult to decouple from daily operations so that they can devote time to the project, and that cross-training other staff to backfill takes an investment of time. The PMO stated that it was leading an effort to address this finding, hiring several additional staff, recruiting temporary staffing solutions for Business and Financial Services, and contracting with outside vendors.

We learned during our follow-up work for this audit that the PMO now has two additional contract team members on board, and that Business and Financial Services had recently hired one accountant and was also interviewing another candidate. However, the PMO confirmed that additional technical support resources are going to be required after the implementation of Phase I; it is expected that sufficient functional and technical resources will be in place by June 30, 2014.

6. Testing and Gap Resolution

We noted in the report for our 2012-13 audit that certain key testing and validation steps related to interfaces, data conversion, management reports, and Oracle/PeopleSoft user security roles and responsibilities were either in process or scheduled to start after we completed the audit fieldwork. The results of our work for this audit indicate that the current status of these activities is generally consistent with the revised timeline for Phase 1 Go-Live. However, there are some ongoing issues in the following areas that may adversely impact the project's timeline:

- Testing and Validation of Interfaces
- Final Data Conversion Testing
- Management Reports
- Oracle/PeopleSoft User Security Roles and Responsibilities

It is our understanding that the project team is aggressively addressing these issues at this time.

Management Corrective Actions

As the auditors note, we have made progress in addressing the remaining issues highlighted in the previous audit reports. We agree that there is additional work to be done in the areas of training and the availability of technical resources, and that the status of other activities is generally consistent with the revised timeline for Phase 1 Go-Live. We continue to work to ensure that all necessary steps are taken prior to and after Phase 1 Go-Live.

Audit and Advisory Services will follow up on the status of these issues at an appropriate time after Phase 1 Go-Live, but no later than September 30, 2014.

B. Compliance with UC Policy IS-10, System Development Standards

Our review found full compliance with Policy IS-10 requirements in the two functional areas we selected for detailed review, the approval of functional specifications and change management and maintenance. The overall purpose of our work was to confirm that project plans and activities incorporate the proper involvement of end users and functional leaders during the earlier stages of the project and after the implementation of Phase I, as required by Policy IS-10. We found the following

- *Requirements for Approvals of Functional Specifications* - We tested a sample of functional specifications for modules in Phase I to determine whether they were properly approved by Functional Team Leads, who represent the end users. We found that all functional specifications we reviewed had been approved by Functional Team Leads.
- *Change Management and Maintenance Standards* - We reviewed whether application support and maintenance have been provided for and implemented as Policy IS-10 requires. Our interviews and analysis of FSIP documentation highlighted that:
 - Reorganization and realignment of certain IT roles and responsibilities is in process as a result of the creation of the Enterprise Technology Services organization. An Application Support & Maintenance unit is planned; in the

meantime, the Enterprise IT PMO and Business Relationship Management units share the responsibility for supporting new systems.

- Some processes and procedures related to application support and maintenance services have been provided for; however, not all processes and procedures required by Policy IS-10 are in place yet.

Given the current stage of the project, we cannot yet determine whether application support and maintenance will comply with Policy IS-10 after implementation of Phase I.

Management Corrective Actions

Ensuring compliance with Policy IS-10 and other University requirements has been part of our project planning, and we are pleased the auditors were able to provide assurance of compliance in the areas included in their scope. We would welcome additional review of these areas by Audit and Advisory Services.

Audit and Advisory Services will follow up on the status of these issues at an appropriate time after Phase 1 Go-Live, but no later than September 30, 2014.