

**Office of Operations Review and Audit**



**Program Review**

**Options for Board Oversight of Major  
Information Technology Projects**

**February 2007**

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## **EXECUTIVE SUMMARY**

The Board of Regents Business, Finance, and Audit Committee requested that the UW System Office of Operations Review and Audit analyze alternatives for Board of Regents oversight of major information technology (IT) projects in the UW System. The request was prompted by the Appointment, Payroll, and Benefits System (APBS), which began in 2001 and was halted in 2006. This report provides an overview of types of information technology projects in the UW System and options for future Board of Regents oversight of IT projects.

### **Types of Information Technology Projects**

The UW System has implemented various types of information technology projects since 1998, including five “enterprise” systems supporting core business processes of the organization. For these five projects, we reviewed project management structures and implementation approaches. A detailed review of implementation steps was not within the scope of this analysis. Among the five enterprise projects, APBS was the only project that was not implemented as planned.

During APBS implementation, the Common Systems Review Group, which has an oversight role with respect to systemwide IT projects, commissioned three separate assessments of APBS. Consultants noted problems with the APBS implementation process, such as the complexity of the project, a high number of customizations, and an inadequate project plan. In response to concerns about APBS, UW System executives have developed organizational, planning, and procedural changes for subsequent IT projects.

### **Options for Board of Regents Oversight**

Board oversight practices in the UW System with respect to IT projects are generally similar to those of many other public universities. However, three practices have been adopted by other boards of public universities which are not in use in the UW System: major IT project approval, IT strategy approval, and review of regular project implementation status reports.

UW System Administration has made organizational, planning, and procedural changes in its approach to major IT projects. In recommending two enhancements to current practice, rather than a dramatically different process, we considered these changes, oversight practices at other universities, and the uncertain link between board approval and IT project success. The UW Board of Regents has received various types of IT-related information since 1998, but not through a systematic process. Therefore, the report recommends UW System management provide the Board of Regents with: 1) an inventory of the major information technology projects scheduled to be implemented in the UW System; and 2) regular status reports on project implementation, including progress toward meeting project benchmarks.

## **SCOPE**

The University of Wisconsin (UW) System Office of Operations Review and Audit analyzed options for UW Board of Regents oversight of the implementation of major information technology (IT) projects. The analysis was requested by the Board of Regents Business, Finance, and Audit Committee, and was prompted by the halting of the Appointment, Payroll, and Benefits System (APBS) implementation.

The analysis focused on the appropriate oversight role of the Board of Regents on major IT project implementations. To gather information for this analysis, we: 1) analyzed the project management structures for current and past major IT project implementations; 2) interviewed UW project managers responsible for implementing these projects; 3) interviewed UW System Administration executives with significant responsibility for overseeing IT project implementations; 4) reviewed UW Board of Regents agendas and minutes to determine past Board oversight practices related to IT project implementations; and 5) reviewed board oversight practices at some other public universities. We also reviewed changes and actions that UW System executives have taken in direct response to concerns consultants raised regarding APBS implementation.

The Board of Regents Business, Finance, and Audit Committee requested a forward-looking analysis. The report provides an overview of APBS; a detailed review of the specific implementation steps of any of the IT projects, including APBS, was not within the scope of this analysis.

## **BACKGROUND**

United States colleges and universities were expected to spend approximately \$7 billion on technology during 2006, according to a national technology survey by Market Data Retrieval, a provider of marketing information to the education sector. This amount represents a 35 percent increase from 2005.<sup>1</sup> The Campus Computing Project reported that in 2004, campus IT expenditures represented 7.3 percent of total campus expenditures.<sup>2</sup> Some university chief business officers and chief information officers see IT projects as sitting “side-by-side with brick-and-mortar initiatives as the largest investments a campus will make.”<sup>3</sup>

At the same time, individual IT project costs vary considerably. Among the more expensive and most complex IT projects are the enterprise systems, commonly referred to as enterprise resource planning (ERP) systems. An enterprise system is a software system designed to support and automate the core business processes of an entire organization. Enterprise systems share common data and practices across the organization. In higher education, administrative information systems, such as student records, admissions, financial aid, general ledger, accounts payable, accounts receivable, billing, grants management, payroll, and human resources are

<sup>1</sup> Market Data Retrieval. *The College Technology Review, 2005-06 Academic Year*.

<sup>2</sup> Green, Kenneth C. “Technology and the Quest for Academic Productivity.” *Trusteeship*, May/June 2004.

<sup>3</sup> Goldstein, Philip, Mark Olson, and Richard N. Katz. “IT: What’s IT Worth?” *NACUBO Business Officer*, July 28, 2003.

typical enterprise systems or modules of an enterprise system. Some universities also implement course management and library systems. A survey of 63 companies by the Meta Group found that the average total cost of ownership of an enterprise system, including hardware, software, professional services, and internal staff, is \$15 million.<sup>4</sup>

Implementation of some enterprise systems can pose significant challenges. Colleges and universities participating in an EDUCAUSE annual Current Issues Survey have listed implementation of enterprise systems as one of their top five issues in each of the past five years.<sup>5</sup> Contrary to popular opinion, EDUCAUSE found that the majority of more than 470 institutions participating in a study of enterprise systems completed their systems on time or ahead of schedule. However, the study also noted that large and multi-campus institutions were less likely to complete implementation on time and on budget,<sup>6</sup> with project delays, missed project milestones, and cost overruns being more frequent occurrences.

The UW System's APBS was one of five enterprise systems implemented in the UW System since 1998. APBS implementation began in 2001, and UW System executives halted implementation in July 2006. In November 2006, the Board of Regents Business, Finance, and Audit Committee requested that the Office of Operations Review and Audit identify and analyze alternatives for Board oversight of future projects.

## **DISCUSSION**

The focus of this analysis was on identifying options for the UW System Board of Regents' consideration in providing oversight of major IT project implementations. The analysis provides: 1) a summary of the types of IT projects and enterprise systems implemented in the UW System during the past several years, including an overview of APBS; and 2) a description of current practices related to board oversight of IT projects in the UW System and at other public university systems. The report recommends steps for enhancing UW Board of Regents oversight.

### **TYPES OF INFORMATION TECHNOLOGY PROJECTS**

We identified IT projects implemented in the UW System during the past several years. The projects vary significantly in size and scope. Table 1 lists the IT projects under the auspices of the System's Common Systems Review Group, as well as other systemwide projects implemented since 1998. While some projects take a relatively short time to implement, others take many years.

<sup>4</sup> Koch, Christopher. "The ABCs of ERP: Getting Started with Enterprise Resource Planning." <<http://www.cio.com/research/erp/edit/erpbasics.html>>.

<sup>5</sup> EDUCAUSE. "Core Data Service Fiscal Year 2005 Report". <[www.educause.edu/ir/library/pdf/pub8003g.pdf](http://www.educause.edu/ir/library/pdf/pub8003g.pdf)>.

<sup>6</sup> Kvavik, Robert B, Karin Beecher, Judith Caruso, Paula King, John Voloudakis, and Lore-Anne Williams. "The Promise and Performance of Enterprise Systems for Higher Education." EDUCAUSE Center for Applied Research, Volume 4, 2002.

**Table 1: UW System Major Information Technology Projects Since 1998**

<b>Project</b>	<b>Purpose</b>	<b>Implementation Status</b>
<b><i>Projects Under the Auspices of the Common Systems Review Group</i></b>		
Application Tools: FirstLogic, Brio, Informatica	Provide application tools for data matching and extracting.	Completed.
Appointment, Payroll, and Benefits System (APBS)	Provide a single consolidated system for human resources, payroll, and other management functions.	Terminated.
Identification, Authentication, and Authorization (IAA)	Provide a central management tool for users' identification, using a single user name and password to access different UW applications.	Completed.
Kronos	Automate the process for employee timekeeping.	Completed.
Learning Management System (Desire2Learn)	Design, develop, deliver, and support learning using the Internet.	Completed.
PeopleSoft Shared Financial System (SFS)	Serve as the platform for financial functions, such as general ledger, purchasing, accounts payable, accounts receivable, asset management, and billing.	Ongoing.
PeopleSoft Student Administration System (SAS)	Serve as the platform for student services functions, including financial aids, student records, admissions, and registration.	Ongoing.
<b><i>Other Systemwide Projects</i></b>		
Library System	Provide students online access to their library records and UW library collections, and allow students to renew and recall items online.	Completed.
Microsoft Contract	Serve as a procurement vehicle to leverage purchases of Microsoft products and licenses.	Completed.
Oracle Contract	Serve as a procurement vehicle to leverage purchases and maintenance of Oracle database.	Completed.

Sources: UW Office of Learning and Information Technology, and Strategic Initiatives, Inc. consultants.

The Common Systems Review Group was originally established in 1998 to leverage resources in the UW System and was comprised of two Provosts, two Chief Business Officers, and two Chief Information Officers. Membership has expanded over time, and currently includes representation from all UW institutions. Representatives are appointed by the UW System Executive Senior Vice President, in consultation with the UW System President, Chancellors, and the Common Systems Review Group Chairs (UW System Vice President for Finance and UW System Chief Information Officer). The charge of the Common Systems Review Group has also expanded to include reviewing feasibility studies on potential new systems applications that are shared among most or all UW institutions, providing a “strategic road map” for all major IT projects, and reviewing and approving project plans and funding for ongoing common systems initiatives.

UW System institutions' IT systems and IT acquisition requests not under the auspices of the Common Systems Review Group are submitted to the Office of Learning and Information

Technology (OLIT) under Financial and Administrative Policy, “Computing Acquisitions Responsibility and Authority” (G20). The policy requires that System Administration review and approve all major project administrative systems and acquisitions in excess of \$250,000.

The UW System spent \$57.5 million on IT equipment leases, purchases, maintenance, and internal transfers for data processing services in FY 2006, according to the UW accounting system (Shared Financial System) data. Of that amount, \$8.9 million was spent on IT systems under the purview of the Common Systems Review Group. The total amount of \$57.5 million does not reflect all expenditures the UW System incurred for IT, as UW financial reporting systems do not capture IT costs incurred for all salaries and by academic and non-IT operating units. EDUCAUSE Core Data Service indicates that academic departments and operating units often spend significant amounts on IT.<sup>7</sup> We examined UW System enterprise projects, generally, and focused on APBS in particular.

### **UW Enterprise Systems**

APBS, as well as four other major IT systems in the past ten years, have been considered enterprise systems. As Table 2 shows, even though implementation may begin only at some UW institutions, these systems are eventually implemented at multiple or all UW institutions.

**Table 2: Enterprise Systems Implemented in the UW System**

<b>Project</b>	<b>Implementation Cost</b>	<b>UW Institutions</b>
Shared Financial System (SFS) – Original Implementation and Upgrades	\$13.8 million	Systemwide.
PeopleSoft – Student Administration System	\$15 million *	Green Bay, Madison, Milwaukee, Oshkosh, Parkside, Platteville, River Falls, Superior, Whitewater, and UW Colleges.
Library System	\$6 million	Systemwide.
Appointment, Payroll, and Benefits System (APBS)	\$26.3 million **	Planned for systemwide implementation. Halted in 2006.
Course Management System (Desire2Learn)	\$2.1 million	Systemwide.

\*This amount includes only expenses incurred by the Common Systems Review Group from FY 2002 through 2006. Common Systems Review Group expenditures prior to FY 2002 and UW institution expenditures were not available. UW System Administration funds two-thirds of any external consulting services used on this project. UW institutions fund the license, hardware, one-third of any external consulting services, and the cost of local staff resources. UW System Administration funds certain infrastructure and consultant services.

\*\*According to UW System management, the cost for APBS was \$26.3 million between 1996 and 2006. Total expenditures were \$28.4 million, with \$2.1 million representing salaries and fringes for UW staff who transferred within the UW System to work on the APBS project and for whom the System would have incurred similar costs.

We interviewed the project managers of each of the five listed systems, as well as the SFS Upgrade, about implementation approach and project management structure. While they reported encountering many challenges during project implementation, all of the projects, except APBS, were fully implemented and are currently functional.

<sup>7</sup> Green, Kenneth C. *Follow the Money*. < <http://campustechnology.com/article.asp?id=8286>>.

Enterprise systems are implemented using either a “big-bang” or a phased approach. APBS was to be implemented using the big-bang approach. Big-bang implementation refers to having the new business processes turned on all at once among institutions implementing the system. In a phased implementation, live production occurs in stages. There are advantages and disadvantages to either approach. The Shared Financial System (SFS), library system, course management system, and student administration system were implemented using the phased approach. Some UW project managers that we interviewed attributed their project implementation success to the use of a phased approach in these projects.

### **Appointment, Payroll, and Benefits System Project Overview**

APBS was intended to replace a mainframe payroll system (legacy system) operated and maintained by the UW Processing Center at UW-Madison. The goal of APBS was to consolidate payroll, appointment, and other human resources functions into a single system for the entire UW System, because the legacy system did not meet the needs of all UW institutions and was expensive to maintain. In 2000, after conducting a competitive procurement process, UW System Administration awarded a contract to purchase Lawson Software’s Human Resources software application. Although a detailed review of the specific APBS implementation steps was not within the scope of this project, we did gather information about: 1) project timelines; 2) project organization; and 3) implementation challenges.

### **Project Timelines**

Implementation of the Lawson software application began in April 2001. The timelines for the major implementation phases were: 1) planning, April 2001 to June 2002; 2) design and build, April 2002 to December 2003; 3) preparation, October 2003 to October 2004; and 4) execution, October 2004 to January 2005.

APBS was scheduled to “go live” (begin functioning) in January 2005. Implementation of APBS eventually fell behind schedule. The planned go-live date was extended from January 2005 to April 2005. In October 2004, the Common Systems Review Group commissioned a consultant to review the timelines and costs for the April 2005 go-live schedule. This project management consultant identified a number of risks that would necessitate extending the go-live date to January 2006. In February 2005, UW System Administration executives put the project on hold pending a separate assessment of the ability of the Lawson software application to meet gaps in functionality identified by UW institutions.

Concurrent with the Lawson Assessment Project, UW institution chancellors approved a project to evaluate whether the Oracle/PeopleSoft application was a viable alternative for the UW System and requested an examination of the longer-term viability of the current legacy system. UW chancellors also recommended the UW System wait for the Wisconsin Department of Administration’s (DOA) choice of a software vendor for its Integrated Business Information System (IBIS) project.

DOA chose Oracle/PeopleSoft for the IBIS project in early spring 2006 and concluded contract negotiations in May of that year. In July 2006, UW System executives made the decision to halt implementation of the Lawson system, deciding instead to pursue the use of Oracle/PeopleSoft to meet the future need for a UW human resources/payroll/benefits system, and to work in collaboration with DOA.

## **Project Organization**

APBS implementation was managed by the UW System Office of Human Resources. The project management structure consisted of project sponsors, a steering committee, the project manager, the project implementation team, and the Common Systems Review Group. Their responsibilities were as follows:

- *Two project co-sponsors*: The sponsors' responsibilities included reviewing and approving the project scope, assisting the project manager in overcoming organizational obstacles, advising the project manager, and monitoring and maintaining the priority of the project relative to other projects.
- *Steering committee*: The steering committee's responsibilities included monitoring project targets, such as implementation timelines and project costs; ensuring sufficient resources were available to the project team; approving the implementation plan; and making final decisions on organizational and software customization issues.
- *Project manager*: The project manager led the project; managed project resources, project implementation, and changes during implementation; reported to the steering committee; updated the Common Systems Review Group; and worked with software vendors, consultants, and UW stakeholders to address needs, problems, and conflicts.
- *Project implementation team*: A core team consisting of many subgroups representing different major business areas was responsible for analyzing, reviewing, and testing business processes for these areas.
- *Common Systems Review Group*: The Common Systems Review Group reviewed and oversaw the overall common systems budgets, developed contingency plans where needed, and provided status reports to the chancellors.

We compared the project management structure used for APBS implementation with the structure used in the implementation of four other UW enterprise systems. The project management structure in the five UW enterprise systems shared many similarities, with several differences. For example, the student administration system did not have a systemwide steering committee, although each UW institution implementing the system had a campus steering committee, and the library system did not involve the Common Systems Review Group. The student administration, library, and course management systems were managed by the office of the UW System Chief Information Officer (OLIT). SFS and subsequent upgrades were managed by the UW System Office of Financial Administration and, as noted, APBS was managed by the UW System Office of Human Resources.

We examined the project management structure for some enterprise systems at other university systems, including California State University, Indiana University, the University of Illinois, the University of Maine, the University of Massachusetts, the University of Minnesota, the Ohio State University, and the University of Tennessee. The management structure used for APBS and the enterprise systems at these other university systems share some general characteristics. Sponsors and steering committees are common. Some university systems establish an executive committee in addition to or in place of the steering committee and a project director in addition to the project manager, as shown in Table 3.

**Table 3: Management Structures for Enterprise System Implementations at Some Higher Educational Institutions**

<b>Enterprise System</b>	<b>Sponsors</b>	<b>Steering Committee</b>	<b>Project Manager</b>
California State University Common Management System (Human Resources)	√	CSU does not use a steering committee but uses an executive committee.	√ (Has a common systems director in addition to project manager.)
University of Illinois Human Resources System	√	√	√
Indiana University Student Information System and Human Resources System	√	√	√
University of Maine Project Enterprise	√	√	√ (Has a project director in addition to project manager.)
University of Massachusetts Human Resources, Financial, and Administrative System	√	√	√ (Also has a project director in addition to project manager.)
University of Minnesota Human Resources System	√	√ (Also has an executive oversight group in addition to the steering committee.)	√
Ohio State University Student Administration	√ (Has business sponsors in addition to executive sponsors.)	√	√
University of Tennessee Integrated R/2 Information System (Financial, HR/Payroll, Procurement)	√	√ (Also has an executive committee in addition to the steering committee.)	√ (Has a project director in addition to project manager.)

Sources: Institution websites, project charters, and staff.

Having similar project management structures does not automatically result in the same project outcome. Like APBS, various enterprise systems at the University of Minnesota and California State University have run into delays and cost overruns, even though these institutions believed that they had the appropriate framework for decision making. This indicates that the structure may not be the sole factor affecting the project outcome.

## **Implementation Challenges**

Project managers of the other UW enterprise systems that were fully implemented attributed their projects' success to certain factors, which were absent in ABPS. First, relationships between the project team and customers are critical to project success. In the case of APBS, the relationship between the project team and various UW institutions suffered from some tensions, and support for the Lawson software was not unanimous. Second, communication to project implementation groups and stakeholders throughout the implementation process is essential. Communication from the APBS management team reportedly was inconsistent. Lastly, the other UW enterprise systems took the approach that business processes should be re-engineered to work with the selected system, rather than modifying the system to work with the current business processes. The scope of APBS was broader than all of the other UW enterprise systems, and APBS also had a high number of customizations.

The Common Systems Review Group commissioned three separate assessments of APBS during project implementation. After extending the go-live date from the original scheduled date of January 2005 to April 2005, the Common Systems Review Group charged a consultant with reviewing the costs and risks associated with the April 2005 go-live schedule.

The consultant assessing APBS implementation readiness noted various problems with the APBS implementation process. For instance, the steering committee was seen as having an effective decision-making process, but was also seen as not being consistently responsive to project needs or effective in evaluating changes. The sponsors and management team were viewed as not being adequately aware of the high level of customizations required to meet the needs of some UW institutions; the APBS project in itself was already complex, but the complexity was compounded by the high number of customizations. Also, the consultant identified various communication issues, observed a lack of a fully-defined and integrated project plan with realistic timelines and budget, and noted that the testing plan was not followed.

### **Changes Resulting from Concerns about APBS**

To address concerns the consultant raised, and to enhance IT project implementation for future human resources and other enterprise systems, UW System management has made a number of organizational, planning, and procedural changes.

- *Organizational Changes:* Three major organizational changes were made. First, project executive committees for the UW System Service Center, formerly called the UW Processing Center, and SFS were established to approve strategies and major business process changes, as well as to address issues that may have broader implications. The UW System Service Center Executive Committee is chaired by the UW System Executive Senior Vice President. The SFS Executive Committee is chaired by the Vice President for Finance. The goal of this change is to provide the highest level of authority and close communication with the UW System President.

Second, an IT project director position was created in the Office of Learning and Information Technology, with the director reporting to the Chief Information Officer. The project

director, who was appointed in February 2007, will be responsible for ensuring that standard project management methods are followed during project implementations.

Third, future steering committees or advisory committees are expected to have greater representation from UW campuses and a more balanced representation between functional and technical users.

- *Planning Changes:* A number of changes will also be adopted for post-APBS project planning, according to UW System executives. Future IT projects are expected to include a more thorough planning process at the start of the project, which incorporates plans for managing project resources, budget, risk management, training, and communication. Future projects are expected to have a detailed project plan that is tied to the budget.
- *Procedural Changes:* Planned procedural changes include regular examination of implementation timelines by the IT project director, project management team, steering committee, Common Systems Review Group, executive committee, and UW senior executives. According to UW System Administration executives, the project director will work with all project managers to ensure adequate communication between the project team, steering committees, the Common Systems Review Group, and other project stakeholders. Audits by individuals external to project management are due to be conducted on major projects that require a year or more to implement.

The UW System has begun to implement some of these changes with the SFS 8.9 Upgrade, the first post-APBS enterprise system to be implemented. The SFS Executive Committee has met monthly and has engaged in project oversight. The SFS 8.9 Upgrade implementation is scheduled to be completed by March 2007. However, it will be some time before the impacts of all of the changes are realized.

## **OPTIONS FOR BOARD OVERSIGHT**

We considered possible roles for the Board of Regents with respect to IT project implementation. We reviewed current Board of Regents practices with respect to oversight of IT projects and board oversight practices in other university systems, and we identified enhancements to current UW practices.

### **Current UW Board of Regents Oversight Practices**

We reviewed selected Board of Regents agendas for the past ten years, as well as Board minutes for the past seven years, to gauge what information on IT project implementations has been provided to the Board of Regents. We also examined what actions the Board has taken with respect to the information received, and whether there was a pattern or systematic method of providing information to the Board.

Our review of agendas and minutes indicated that UW System management provided information on IT issues and IT development to the entire Board; the Education Committee; or

the Business, Finance, and Audit Committee, depending on the topic. The types of information provided included: 1) the UW System 2001-03 Information Technology Plan; 2) information on UW System IT priorities; 3) reports on IT planning efforts, such as Y2K, student and faculty technology use, and best business practices; and 4) reports on the implementation status of some IT projects, such as the Student Information System, the course management system, the library system, and the UW Processing Center merger. In each instance, the material was provided for information purposes only. Thus, the Board did not take formal action, and no action was requested.

Since this analysis was prompted by the developments related to APBS, we reviewed Board of Regents agendas and minutes for information provided to the Board specifically about APBS. Between 1996 and 2001, just prior to the start of project implementation, System Administration provided the Board with information on APBS project development. Board agendas and minutes did not include any information about APBS during project implementation. The most recent information about APBS provided to the Board was in 2006, after UW System executives had decided to halt implementation. The practice of not providing the Board with IT project status reports was not unique to APBS.

We could determine no particular pattern in the type, or timing, of information that was provided. UW System executives and project managers indicated that items have been brought to the Board on an as-needed basis, rather than as part of an overall IT-project status report.

### **Board Oversight Practices at Other University Systems**

We researched board oversight practices at some public university systems and institutions and contacted some of these institutions to determine how their boards provide oversight of IT projects. Table 4 summarizes board oversight practices at these systems and institutions.

**Table 4: Summary of Board Oversight Practices at Selected Public University Systems or Institutions**

<b>System/Institution</b>	<b>IT Oversight Practice</b>
University of Arizona System	Board approves all projects costing more than \$500,000. System Administration provides quarterly updates to the Board.
California State University System	Board approves an overall IT strategy. Board approval is not required for individual projects. Regular update is not required.
University System of Georgia	Board approves an overall IT strategy. Board approval is not required for individual projects. System Administration makes annual presentations to the Board on the status of projects included in the overall strategy.
University of Illinois System	Board approval is not required for individual projects, but all purchases above a certain threshold related to IT projects require prior Board approval. Threshold varies by types of purchases. Regular update is not required.
Indiana University	Board approves an overall IT strategy. Board approval is not required for individual projects. Regular update is not required.
Iowa Board of Regents	Board approval is not required for individual projects, but systemwide projects are expected to be brought to the Board. Iowa has not implemented a systemwide IT project. Regular update is not required.

System/Institution	IT Oversight Practice
University of Maine System	Board approval is not required for individual projects, but two projects were approved by the Board since 2000. System Administration brought one project for approval because of its costs. The other project needed capital to fund the project. System Administration provides annual updates to the Board.
University of Massachusetts System	Board approval is not required for individual projects. Regular update is not required.
University of Michigan	Board approval is not required for individual projects. Regular update is not required.
University of Minnesota	Board approval is not required for individual projects. Regular update is not required.
University of Missouri System	Board approval is not required for individual projects, but purchases and consultant agreements costing over \$500,000 require Board approval. System Administration used to update an ad hoc IT Committee once every two years, but the committee does not currently exist.
State University of New York System	Board approval is not required for individual projects. Regular update is not required.
University of North Carolina System	Board approval is not required for individual projects, but the board approves an overall strategic plan. Regular update is not required.
Ohio State University	Board approval is not required for individual projects, although the PeopleSoft Student Administration System was approved by the Board because of cost. Regular update is not required.
University of Tennessee System	Board approval is not required for individual projects. Regular update is not required.
University of Washington	Board approval is not required for individual projects. Regular update is not required.

Sources: Institution websites, board agendas and minutes, and institution staff.

By and large, the board oversight of IT projects at the UW System appears to be similar to oversight at many of the public university systems in our research. Board oversight of IT projects can occur before project implementation begins, during project implementation, or both. However, our analysis reveals three practices – two before project implementation and one during project implementation – which are not currently practiced in the UW System: major project approval, IT strategy approval, and regular implementation-status reporting.

- *Major Project Approval:* Major IT-project approval procedures elsewhere are similar to the UW System’s major capital project practices, in that the Board approves project requests above a certain cost threshold.

We found this approval procedure for major IT projects at a number of universities. At the University of Arizona System, the Board must approve all IT projects costing more than \$500,000. The University of Illinois System Board of Regents does not approve IT projects, but must approve all IT hardware, software, and service purchases above a certain threshold; the threshold is different for different types of purchases. Similar to the University of Illinois, the University of Missouri System Board of Curators does not approve IT projects, but must approve all purchases costing more than \$500,000. At the University of Maine System and the Ohio State University, board approval is not required, but their human

resources (Maine) and student information (Ohio) systems were brought to the Board for approval because of their costs. Another project at the University of Maine System was also brought to the Board for approval because it needed financing.

- *Information Technology Strategy Approval:* At some universities, the boards approve an overall IT strategy or plan, rather than individual IT projects. We found this practice at the University of North Carolina System, Indiana University, and California State University System.
- *Regular Implementation Status Reporting:* At some universities, the boards receive regular updates on project implementation status. Management at the University of Maine System makes an annual presentation to the board's Finance/Facilities Committee as a way of updating the board on project implementation status. The University System of Georgia provides an annual project update summary to the board. At the University of Missouri System, the chief information officer updates the board on the status of project implementation once every two years.

We considered the appropriateness of each of these oversight methods for the UW System. We also considered the UW System's record of IT project implementation. Some chief information officers in other university systems we contacted indicated that while having the board approve individual large IT projects or an overall IT plan may appeal to the public, these practices do not necessarily increase the success of the projects.

In addition, having the Board approve individual IT projects might necessitate establishing a process similar to the capital planning and budget approval process, which could result in project implementation delays, increased staff workload, and increased costs. Approving an overall IT plan would not have the same disadvantages, but an overall IT plan is typically broader and may not necessarily include project budgets and timelines, making this type of approval less useful.

### **Recommended Board of Regents Oversight Practices**

We researched the literature for effective board oversight of information technology projects. We also solicited assistance from the Association of Governing Boards of Universities and Colleges (AGB), requesting a search of the AGB's library resources on effective board oversight of IT project implementations. Our research revealed a significant amount of literature on board oversight in general, ranging from board roles and responsibilities to relations between the university president and the board. However, information specific to board oversight of IT projects was limited.

According to the literature we reviewed, IT initiatives enjoy greater success with board awareness of the initiatives, and the boards should "ask powerful questions" about their institutions' investment in and strategies for IT. At the same time, boards are typically advised to avoid "micromanagement." Furthermore, the literature suggests that board oversight of IT projects can be achieved through the same approaches used for effective board oversight of any

university operations, such as through questions about resource management, priority-setting, and the relevance of a given project to the university's mission.<sup>8, 9, 10, 11, 12</sup>

Our analysis leads to the conclusion that a major overhaul of the current UW Board of Regents oversight practices is not necessary. This conclusion is based on our review of the literature, analysis of the UW System's record of implementing enterprise systems since 1998, the changes UW System Administration has initiated as a result of APBS, and board oversight practices at other university systems. Nevertheless, the halting of APBS suggests the need for enhancements to current practices:

- 1. We recommend UW System management provide the Board of Regents with an inventory of major IT projects scheduled for implementation in the UW System.** Because of their potential systemwide impact, projects under the auspices of the Common Systems Review Group and other systemwide projects would be appropriate projects to bring to the Board. The project inventory could be updated whenever new projects are added.
- 2. We recommend UW System management provide regular status reports to the Board of Regents on project implementation.** Appropriate information for implementation status reports might include: project costs, timelines, progress toward meeting established benchmarks, other accomplishments, and any significant changes in plans that will affect project costs and timelines. Reports could be provided at least annually.

If these reporting practices are adopted, the Board will need to determine which Board committee would appropriately have oversight responsibility for IT project implementations. We examined which committees of the boards at other universities have responsibilities for IT. Only the University of Arizona System and University System of Georgia have a separate IT committee. The Indiana University Board of Trustees established the Long-Range Planning Committee to support Indiana University's leadership in IT. The more common practice is to assign IT oversight responsibilities to the finance committee of the board.

One possibility for the UW System would be for the recommended information to be provided to the Business, Finance, and Audit Committee as part of the Vice President for Finance's regular report. This would provide the Business, Finance, and Audit Committee with a significant opportunity to ask questions, to seek clarification, and to direct UW System management to take necessary action for the purposes of minimizing the risks of project delays and cost overruns.

<sup>8</sup> Heterick, Robert C. "Technological Change and Higher Education." *AGB Priorities*, Number 1, Spring 1994.

<sup>9</sup> Association of Governing Boards of Universities and Colleges. "Policy Making and Administrative Oversight." Board Basics Series.

<sup>10</sup> Association of Governing Boards of Universities and Colleges. "Searching for New Directions for IT Financing." *Trusteeship*, May/June 2001.

<sup>11</sup> Nolan, Richard, and F. Warren McFarlan. "Information Technology and the Board of Directors." *Harvard Business Review*, October 2005.

<sup>12</sup> Also see references 2, 3, and 7.