



**University of Wisconsin Milwaukee
Information Technology (IT) Assessment Project
Executive Summary
April, 2001**

Executive Overview - Background

Information technology can be described as an external force that is changing the university and an internal tool for shaping it. The University of Wisconsin - Milwaukee (UWM) recognized the historic nature of this trend and for this reason and others engaged Blackwell Consulting Services to assess the information technology (IT) environment at UWM. The recommendations in this study are designed to enhance IT resources at UWM.

Project Organization

The UWM IT Assessment project was managed by the office of John Wanat, Provost and Vice Chancellor for Academic Affairs. The main consulting team was comprised of a Project Executive, a Project Manager/Sr. Consultant and an additional Sr. Consultant. UWM established a Technical Review Committee with representatives from the faculty and staff, including the chairpersons of the CPC and EMPC, which are formal committees of the UWM Faculty Senate. The Technical Review Committee was chaired by Leslie Schulz, Assistant Vice Chancellor, Academic Affairs. The Technical Review Committee provided invaluable assistance to the consulting team.

Project Methodology

The scope of work comprising the IT assessment components of this project included the following formative and summative activities:

- Understanding UWM's Strategies and Drivers
- Conducting Assessment Surveys and Workshops
- Comparing UWM's Current IT State with that of Other Institutions
- Developing Conclusions and Recommendations

The project team used a broad range of tools and methodologies during this project, including interviews, surveys, workshops, electronic research and presentations. The consultants received 1,860 survey responses, conducted over 15 one-on-one interviews with campus administrators and facilitated workshops with over 135 participants.

Executive Overview – University Strategies and Drivers

University Strategies and Drivers

In August of 1999, UWM published its overall institutional mission. It stated: “To fulfill its mission as a major urban doctoral university and to meet the diverse needs of Wisconsin's largest metropolitan area, the University of Wisconsin-Milwaukee must provide a wide array of degree programs, a balanced program of applied and basic research, and a faculty who are active in public service.”

Interviews with key administrators revealed a number of important strengths that were identified with UWM:

- Full service institution – available to students at any point in their career
- Affordability, location, accessibility to an urban setting
- Qualified / Competent / Involved faculty
- Strong collaboration and connection with the community
- A Chancellor who demonstrates a new sense of leadership and ability to bring people to the table

In looking at weaknesses surrounding Information Technology (IT) at UWM, several items were identified:

- The IT organizational structure is not visible
- There is no clear IT decision making process
- The decentralized nature of IT support has the strong potential for redundant work, particularly given the lack of clarity about department roles and responsibilities
- The role of the ‘Chief Information Officer (CIO)’ at UWM is unclear
- UWM needs an IT staff that is better trained and more responsive to the user community
- There is no university wide IT strategic planning that involves anyone outside of I&MT

Executive Overview – Assessment Surveys and Workshops

IT Expenditures Assessment

A comprehensive analysis of information technology spending at UWM was conducted. The study examined the spending patterns for all major academic and administrative units. The data collected was analyzed from two different perspectives: spending by type of service provided and type of item purchased.

In total, UWM commits approximately \$19.7M of its operating budget on information technology hardware, software, personnel costs and other services or resources. This represents approximately 7.8% of UWM's overall operating budget. The amount parallels other large universities, such as the University of Minnesota and the California State University system.

Approximately 47% or \$19.7M is spent on academic and research support services, 10% is expended on network infrastructure and the remainder allocated to administrative support services. These numbers are in alignment with spending patterns found at similar universities.

The I&MT budget is approximately \$10.6M of which 64% is spent on labor while the remainder is set aside for hardware, software and network costs. Approximately \$1.9M (27%) of I&MT's labor budget is used to pay for the Student Technology Services (STS) program. This project utilizes student labor to provide help desk and computer lab support.

In looking at the IT spending by department, Architecture and Urban Planning, Engineering and Applied Science and the School of Information Studies colleges expend the most IT dollars by student credit hour and total instructional FTE. The range of spending per student credit hour ranges from \$10 (for Letters and Science) to \$49 (for Architecture and Urban Planning). The differences in IT spending among the schools reflect the nature of the various disciplines, the preparation deemed essential in preparing students to enter the work world, along with the investment decisions that have historically been used to support each college's academic programs.

Executive Overview – Assessment Surveys and Workshops

Stakeholder Needs Assessment

A campus-wide survey of information technology uses and needs was conducted. A questionnaire was sent to 100% of faculty, all major staff groups and to a representative group of students. A total of 1,860 questionnaires were returned. The return rates were 61% for students, 38% for faculty and 68% for staff. The following discusses the major findings resulting from the survey.

Technology Access

Most faculty, staff and students have convenient computer access. However, there is a population of “power users” who require higher levels of technology to meet their needs. Students have some level of dissatisfaction with the reliability and availability of workstations and technical support in the labs. Lab assistant skills and training are lacking in many areas. Many students expressed a need for additional 24 hour labs. These problems cross both I&MT and department owned workstations and labs. Of the 61 computer labs on campus, only 7 of these labs are “Open Labs” managed by I&MT. The remainder are departmentally owned labs.

In the areas of off-campus access to UWM’s IT network and resources, the growing ownership of personal computers continue to make UWM’s modem pool a highly contentious issue, particularly with faculty. Ownership of a home computer was: 97% for faculty; 91% for students; and 81% for staff. At the same time, 50% of all faculty, 36% of staff and 42% of students do not have their own personal internet service provider (ISP): UWM provides their only internet access service. The addition of 147 new modem lines in Fall ’00 has removed the problem of frequent busy signals. However, older and slower modems were implemented at 28.8Kbs, rather than the more standard 56Kbs service, causing new frustration among stakeholders.

UWM’s administrative systems seem to be generally available to traditional users of these systems, although there remains a significant faculty demand for access that needs attention. This need should be taken into consideration by the OASIS team.

The major inhibitors to the effective use of IT center around finding time to attend classes, accessibility of training and support. Students also expressed a need for improved access to technology. Stakeholders report low usage of the “Campus IT Support” group, with somewhat higher levels for their department IT staff. The STS managed campus help desk was reported to be used by 4% of the campus.

Executive Overview – Position UWM’s Current IT State with That of Other Institutions

To provide additional insights into how other urban universities are addressing some of the same issues that face UWM, interviews were conducted with the chief information officer at four institutions: University of Illinois – Chicago, University of Cincinnati, Temple University and University of Indiana - Bloomington. These schools were chosen based on several criteria:

- Research orientation
- Comparable degree programs
- Similar demographics including size and makeup of student population in an urban environment
- Institutions that UWM may aspire to become

The peer review research and interviews focused on the issues and factors critical to UWM’s current environment and future success.

In summarizing the peer institutions’ common strengths, the consultants found both a direction and an attainable set of goals for UWM to pursue in their future technology planning.

Organization:

- A very visible and highly respected CIO who builds relationships and fosters a collaborative environment between IT, the departments and colleges
- The CIO reports directly to the equivalent of the chancellor and/or provost.
- Department IT leaders with a shared reporting responsibility to the Deans and I&MT
- IT involvement in strategic and operational planning sessions

Support:

- A customer focused service organization that understands the users’ needs
- A standard image on all campus computer workstations
- Consistent lab management supporting fewer and better equipped labs
- Sufficient 56K modem support to support their user communities

Communication:

- Clear, consistent communication within and across the campus
- Succinct definition and understanding of roles and responsibilities

Executive Overview – Conclusions

While assessment projects strive to identify weaknesses and solutions, it is also important to recognize the areas that are working well in the current UWM technology environment. These include:

- The majority of UWM's campus offices and classrooms are wired to the network, an accomplishment that many larger institutions are struggling to attain. Additionally, the network seems to be very reliable.
- The majority of UWM's stakeholders have ready access to workstations that meet their needs.
- Access to administrative systems is, for the most part, meeting user requirements.
- There is an extremely high rate of personal ownership of computers, speaking to a high level of basic computer literacy and information competency.

In summary, UWM's current IT environment is generally satisfactory. However, as one might expect, there are several key areas that need to be improved in order for UWM to maximize the benefits of its IT investments.

The most critical IT organizational issues facing UWM deal with a lack of defined roles and responsibilities for IT support and services, ineffective strategic planning structures and processes, and inadequate communications about technology resources and services.

Strategic IT Planning

There is a widespread perception in the UWM community of IT users and committee members that the current structure is ineffective, with too many committees having unclear and overlapping missions.

Dial-In Access

While the campus recently resolved its 'busy signal' problem by adding more dial-in lines, old technology (28.8Kbs) was deployed rather than newer (56Kbs) technology. The financial analysis that was employed was flawed and overstated the true cost of deploying this new technology.

Student Lab Access

The majority of labs are departmentally based, with undefined on-going funding models and widely-varying levels of support. While I&MT's desire to maintain a single, cross-campus lab software platform is a good strategy, its limitations in supporting discipline specific software is a barrier to departments that might want I&MT to take over the management of their labs.

Executive Overview – Conclusions (con't)

Despite the strong willingness of students to purchase personal computers, there appears to be no strategy for exploiting this trend. There are no programs to encourage students to acquire laptops, to provide the electrical and network connections to use them in labs and other places on- and off-campus.

Equipment funding in public labs comes from direct state subsidies and student fees. Department labs are funded less formally through grants, operating expense redirection, and lab modernization funds.

Technical Support, Training and Help Desk

The Student Technology Services (STS) program is based on an excellent concept of using student labor to achieve two important goals: delivering excellent technology support at UWM at a lower cost; and providing students with strong IT support skills that will be valuable to them after graduation. However, the operational process and procedures are less than satisfactory. UWM spends \$1.9M on the STS program, with 36% coming from Student Technology fees and the remainder from operating funds. While the Student Technology Services program has a highly developed set of responsibilities, skills and training for STS staff, it is unclear how effectively these guidelines are managed and assessed.

I&MT has not effectively focused on delivering high levels of “customer service”, a change that will impact the underlying culture of the I&MT and STS organizations.

The lack of clearly defined roles and responsibilities for all IT provider groups, including colleges and I&MT have allowed unrealistic support expectations to be developed. This is the source of much of the inter-organizational IT tension on the campus.

Faculty expressed frustration at the inadequate level of support and training for instructional technologies. UWM has a variety of instructional technology organizations, like the Learning Technology Center, that are understaffed and not integrated.

Access to professional development is limited for several reasons: an apparent lack of available training courses; poor communication of the courses (formal and multimedia) that may be available; making time for training and a lack of support by management to attend training was also cited.

Lack of a standard, high function e-mail system continues to cause issues with respect to training, support and interoperability even though 90%+ of the stakeholders claim to use e-mail.

Executive Overview – Recommendations

The overall recommendations for improving the effectiveness of IT at UWM fall into several major categories:

Establish a new role for UWM’s Chief Information Officer (CIO) Position

The growing penetration of technology into all facets of university life and business combined with the growing complexity cost of emerging technologies have driven the need to change the role of CIO’s. UWM should shift the focus of the Chief Information Officer position from that of a manager of technologies to being a manager of relationships. In order for UWM’s colleges and departments to take advantage of these technologies, the CIO needs to establish good working relationships across UWM in order to better understand each groups’ requirements and to help translate user needs into technology solutions.

Establish IT Leadership Positions in each unit

To support the transformation of the CIO position, each functional unit should establish a IT leadership position reporting to its Dean’s office. These leaders will serve as the IT ‘CIO-like’ position for each unit and will be responsible for managing that group’s IT staff and working with the UWM CIO to determine the roles and responsibilities between the unit and I&MT.

Establish a new IT Strategic Planning Structure

UWM should consolidate all of its IT committees, councils, etc., into a new unified planning structure. The consolidation of the EMPC and CPC, led by the Faculty Senate was an excellent first step in this process. This new structure will have several critical goals:

- **Develop a long term IT Strategic Vision and Plan**
- Be a single point for campus-wide policy and planning collaboration.
- Commission short-life subcommittees to do the detailed staff work to support their decisions and recommendations.
- Be the channel for high-level campus administrators to be visibly engaged in IT planning efforts.

Four committees should serve the following roles:

- **Council On IT:** Key campus administrators and representatives of the various university governance groups coordinating cross-campus IT planning at the highest level of decision making
- **Information Technology Policy Committee:** Focus on academic and research resources
- **Institutional Management Technology Planning:** Focus on administrative and student services technology resources
- **Technology Infrastructure Planning:** Focus on infrastructure technology resources

Executive Overview – Recommendations (con't)

Define Campus-Wide IT Roles and Responsibilities

Much of the angst among the various users and providers of IT is a result of the complete lack of defined roles and responsibilities for the delivery of IT support and services. UWM should undertake a study to define the various roles and responsibilities among I&MT, colleges and other groups that support technology on the campuses. The new IT leadership positions and the new IT Strategic Planning Structure should lead this effort.

Establish A University-wide IT Communications Plan

The best efforts of the IT providers (both I&MT and functional unit based) are often not effectively communicated to the students, faculty and staff at UWM. A thoughtful study of the best medium, type of message and frequency can significantly improve the use of UWM's IT resources.

Adoption of a Customer Service Culture within I&MT

A major issue of many campus users and I&MT personnel is the lack of a customer service attitude by some individuals and groups within I&MT. I&MT should commit to change this culture through communications, education and performance metrics that focus on customer satisfaction.

Establishment of an IT Support Strategy and Plan

In order to deliver on this new customer service culture, I&MT should immediately focus on instituting 'best practices' tools and processes within its help desk and on-site IT support groups. As the roles and responsibilities effort is completed, this support strategy should be integrated with departmental agreements for user support.

Additionally, I&MT should work with the campus units to identify both key service delivery issues and client service metrics and then use these to reengineer the STS program to improve its service delivery effectiveness.

Establish Dial-in Modem Strategy and upgrade to 56K

A formal policy on the UWM's strategy for providing dial-in access and user responsibility for obtaining access should be developed. While that is occurring, UWM should fund the upgrade of its modem pool to 56Kbs.

FINAL NOTE: Distance Learning was not included in the scope of this project. However, based on experience and what has been learned during this project, the consultants strongly recommend that UWM clearly define its strategic intent, goals and objectives for Distance Learning. Many of the major IT issues found as a part of this study appear to apply equally to UWM's Distance Learning efforts.