Measurement, Analysis and Knowledge Management

Performance Measurement

a(1) Organizational Performance Review and Planning are discussed in categories 1 and 2, and MOEs resulting from those processes are in Figure 2.1-3.

Because of the continuous nature of the planning process, MOEs are added or changed as new challenges arise. Key factors in identifying MOEs include ease of collection, ability to address progress, availability of data, balance among key stakeholders, capacity for identifying causal factors, and data reliability and integrity.

Other MOEs are defined from required reporting at the state and federal levels. Nationally, data is provided for the IPEDS reports, College and University Personnel Association (CUPA) and American Association of University Professors (AAUP) salary studies, the HLC, and specialized national accrediting agencies. Student and course enrollments, fiscal data and IT related information reflect some of the information that must be reported to the CHE and CUP to inform legislators and other members of the public.

When regular MOE reviews reveal that the organization is operating below planned levels, action is taken to adjust activities. For example, when the budget review by the EC finds that financial MOEs are not at projected levels, action plans are made to move them back on target or to redistribute funds. If student learning outcomes are below desired levels, as was the case with the pass rates for nursing licensure, interventions are designed to address the concern and move the MOE back toward target.

The MOE collection process became more decentralized this year; however, to ensure that decentralization does not hinder its effectiveness, the August 2003 SP Retreat will evaluate the feasibility of moving to an integrated scorecard for performance measurement. This will enable more clearly focused attention on measures vital to WNMU's performance and facilitate frequent reviews, providing needed information for more informed decisions. Moving to an integrated administrative software system supports new opportunities for utilizing results in regular performance reviews. The Banner system allows data to be entered one time from one office but to be available to all users, which also makes the move to a scorecard feasible.

Institutional data reviews include more summative than formative data; however, some formative measures are utilized, e.g., institutional retention rates as an indicator of future enrollment and funding. Faculty frequently uses classroom assessment techniques to determine the level of learning on a topic or to discern how effective a particular teaching style is for a class. Regular data analysis reinforces alignment efforts and helps identify gaps or trends which need addressing. For example, in the library selection and collection of data and information are determined by measures identified in their operational plan. Many of the data are collected are used to analyze longitudinal trends. Analysis of the results is then used to make changes in resource allocations. Recently a steady decline in interlibrary loan transactions resulted in the elimination of a half-time position in the interlibrary loan areas, while an increase in the use of reference services resulted in the addition of a half-time position in the reference area.

a(2) During the WNMU Decision Cycle (Figure OP-6), effort is made to identify appropriate comparative data sources at both the state and national levels. Required CHE reporting provides timely comparative information in selected areas. Such comparisons at the national level are harder to secure. Some national comparisons, such as the IPEDS, lag in availability; others, such as nationally normed surveys, are usually available within six months of being administered. Still others depend on the willingness of similar AQIP or Renaissance partners to share data in selected areas. Comparative national data are also available on licensure rates in some disciplines. Past performance data provides another set of key comparative data.

Criteria for the selection and use of external comparative data include similarity of institutions, cost of securing data, compatibility of definitional terms, best-in-class examples, relevance to institutional needs and priorities, and ease of access. Comparative data are used to provide input on setting performance standards, a context for data analysis, and identification of potential benchmarking institutions or practices.

The University participates in a number of nationally normed surveys such as the NL, NSSE, CUPA and AAUP salary studies, and the Higher Education and Research Institution (HERI) triennial survey of faculty. Alumni and graduating senior surveys are also done triennially at all state institutions. Where appropriate, comparisons to industry standards occur.

Informal comparative data gathering, to include interaction during professional meetings, professional paper presentations, Web sites, etc., where successful practices, research results and other materials are shared, is very common within the academic community. Best-in-class practices identified through such exchanges are shared through departmental meetings and workshops and, where appropriate, adapted to the WNMU culture. Such was the case with the development of learning communities, establishment of the freshman seminar, use of a rubric to evaluate departmental assessment plans, and contracting to provide certain support services.

Segmentation of data serves as another comparative tool. Prior to the introduction of the Banner system, pulling data for different student and stakeholder segments was

difficult. With Banner, data segmentation and tracking are becoming easier; however, we still are lacking in this area.

a(3) To keep the measurement system current, WNMU uses regular involvement in professional meetings, annual reviews of MOEs and their usefulness in decision making situations, national surveys, participation on professional advisory groups, and accreditation processes. With the decentralization of the measurement system, processes are being put in place to integrate information from the different sources. Changes and/or refinements to the measurement system are ongoing and responsive to changing educational needs.

AQIP and other quality related feedback reviews and analysis are key inputs into the planning process. As new AQIP action projects are undertaken, process and outcomes measures must be identified. AQIP performance measures are reviewed at least annually to determine whether progress is being made on the Action Project. Previously such analyses supported a shift from a local to a national student satisfaction survey, changes in the rising junior outcomes assessment, and reconsideration of the numbering system for some general education courses. Changes in external requirements and annual audits also require that financial and regulatory information remain current. An analysis of question responses indicated the need for adjustments to employee survey questions prior to its second administration.

Performance Analysis
b(1) Transforming data into information is a continuous effort. Figure 4.1-1 provides some illustrations of key performance analyses. Efforts to closely align analysis for organizational performance reviews and organizational planning support linkages to decision making processes. Analyses include consideration of the needs of students and stakeholders, priority initiatives, innovative practices, and newly identified opportunities. In addition to traditional measurement analysis methods, quality tools, including criteria matrices, Gantt charts, and affinity diagrams, are used.

WNMU conducts a variety of analyses. One critical source of data analysis occurs during the annual SP retreat SWOT analysis. This analysis provides the base for any subsequent planning and the identification of strategic challenges. Another occurs with analysis of changes in formula funding or performance funding measures that affect revenues coming into the institution. Other examples include analysis of vacant positions during budget development, market analysis to support student recruitment efforts, enrollment projections to estimate available revenues, and academic program reviews to support retention, expansion, or deletion of educational offerings. Finally, governance committees provide analyses related to budget, compensation, and curriculum. These systematic processes taken as a whole provide

strategic information that supports the organization's ability to respond effectively to existing and innovative opportunities.

Table 4.1-1 - Illustrations of Organizational Performance (MOEs) Analysis			
Performance Category	**Illustrative Types of Data Analyzed**	**Unit(s) Assigned Monitoring Responsibility**	**Examples of How Results Communicated**
Student Performance MOEs	NL Satisfaction Survey (Figure 7.2-4)	Special Assistant for Quality Initiatives; Assessment Committee; Executive Council	SP Input Presentations to governance bodies Student newspaper Mustang Express Evaluation Matrix
	Discipline Specific Learning Outcomes (Figure 7.1-4-9)	Academic Department Assessment Coordinators	Annual Report to Assessment Committee, Departmental meetings
Employee Performance MOEs	Employee Survey (Figure 7.4-13)	Special Assistant for Quality Initiatives; Executive Council; Governance Groups	SP input Presentations to faculty and staff Library Reserve
Organization Performance MOEs	Budget/ Financial Information (Figures 7.3-3)	VPBA	SP Input; Internal Reports Reports to Governance Units CHE Reports BOR Reports
	Accreditation Evaluations (Figure 7.5-1)	P/VPAA, Deans and Department Chairs	SP Input Mustang Express BOR Reports Department Visits
Regulatory Performance MOEs	Audit Findings (Figure 7.6-1)	VPBA	Reports to Governance Units Mustang Express Review by State SP Input Auditor
	Worker's Compensation Claims (Figure 7.6-5)	VPBA	State Reports BOR Reports

b(2) Organizational results are communicated to students, faculty, staff and other key stakeholders through a variety

of sources including meetings, reports, and information posted on Mustang Express, personal interactions, and in the *WestWind*.

Other examples are provided in Figure 4.1-1. Cabinet discussions and presentations, presidential visits to departments and units, Vice presidential councils, and interactions with governance units directly or through committees are also utilized. EC members are on call to respond to any questions or to provide requested information to faculty and staff governance groups.

Information and Knowledge Management

Data and Information Availability
a(1) Channels used to make data and information available for internal stakeholders (WNMU faculty, staff, and students) include the following:

The **campus network** is a client-server based network with over 40 servers and 800 workstations on the Silver City campus. It also includes a VPN that allows the WNMU centers in Deming, Gallup, and TorC to operate as though part of the campus network. Each member of the WNMU community has access to communication tools on the network by means of a user profile based upon information needs. Communication tools on the campus network include Mustang Express, portal software with broadcast announcement, e-mail, calendar, and group bulletin board functions; e-mail and listservs; shared drives on servers (for file sharing across the organization); SCT Banner, the student/administrative information system that includes registration, financial aid, degree audit, finance, and human resource modules; the WNMU Web site (a channel for both internal and external stakeholders); WebCT, software for Web-based and Web-enhanced classes; and videoconferencing technology, two-way interactive communication between remote sites for course delivery and other organizational communication.

Organizational meetings are a second channel for internal shareholders. Meetings of standing and ad hoc committees (and the minutes generated at the meetings) provide a systematic means of communication throughout the organization. These committees include Cabinet, EC, BOR, Faculty Senate and Assembly, Staff Senate, Student Senate, Academic Council, departmental meetings, the ITT meetings, AQIP team meetings, as well as the standing committees of faculty, staff, and student senates. Minutes from the meetings may be broadcast to the campus by e-mail, posted on the shared drive, posted on the portal site for the committee, and filed in binders at Miller Library's reference desk.

Surveys and written reports provide a third channel. The WNMU community participates in staff, faculty, and student satisfaction surveys. The WNMU Assessment Coordinator compiles the results and makes them

available to stakeholders. Faculty performance is documented through student evaluations and through the MBO, promotion and tenure, and post-tenure review processes. Staff performance is documented through an annual performance review. Academic programs, reviews result in written reports that are used to support administration decisions.

Internal stakeholders receive formal **publications** as a channel of communication. The primary publications include the annual WNMU catalog, the Fall, Spring, and Summer course schedules; the Mustang, the student newspaper; and the *West W*ind, the employee newsletter.

The fifth channel of communication for internal stakeholders is through **one-on-one communication**: via electronic means (e-mail), written means (memos), telephone, or personal meetings. WNMU leadership encourages this channel by remaining accessible to staff and students, including through practice of "Management by Walking Around."

Channels for external stakeholders include the following:

The **WNMU Web page** (http://www.wnmu.edu) provides information about WNMU to anyone with Internet access.

Press and marketing materials include press releases from the PIO. The PIO also hosts discussions about campus events on local radio stations. The Office of Alumni Affairs publishes an alumni newsletter, and the WNMU Foundation publishes an annual report to donors and potential donors.

Public meetings are another channel of communication with external stakeholders. The monthly Community Relations meeting is an opportunity for local community members to give and receive information regarding campus events. The BOR meetings are open to the public for input into organizational decisions. WNMU leaders regularly participate in CHE, legislative, local, and regional meetings. New student orientation provides important information to families regarding the student experience at WNMU.

WNMU staff and faculty prepare several types of **reports** to external stakeholders. The annual IPEDS report provides a tool for comparing institutional performance over time and for benchmarking performance. The CHE requires that WNMU submit regular reports ranging from student performance and retention to finances. The NM CUP prepares an annual performance effectiveness report, and WNMU staff prepare a profile to include in that report. WNMU relies upon accreditation reports to HLC (and discipline-specific accrediting bodies) to continue to provide quality educational services.

WNMU faculty (and some staff) provide **professional service** as part of their job responsibilities. This service

may include participating in regional or national organizations, publishing, and making presentations at conferences.

a(2) The IT Department (ITD) has primary responsibility for the information technology infrastructure. Hardware reliability, security, and user-friendliness are ensured in the following ways:

- ITD staff review all purchase requisitions for computer hardware to ensure that acquisition of hardware that can be supported and maintained.
- A risk-tolerance document for the hardware components of the IT infrastructure. Each component is coded according to the length of time it takes to resume function in the case of a breakdown (based on warranty, maintenance agreements, and redundancy). This document provides a means of prioritizing the network components to ensure reliability of the key pieces of hardware.
- Most of the servers on the SC campus are housed in areas with alarm systems and climate controls to ensure both reliability and security.
- The WNMU network is protected from attack from hackers by a firewall and software tools.
- Extended University employs a technical person at each center who coordinates technical support with the ITD to ensure that WNMU standards, policies, and procedures are in place at these sites.
- A computer hardware disposition policy ensures disposition of computers in an environmentally friendly manner.
- Computer hardware is tagged and inventoried per New Mexico purchasing regulations and risk management guidelines and insured against loss.
- The Help Desk staff troubleshoots hardware and software problems over the telephone or in person.

WNMU ensures software reliability, security, and user friendliness in the following ways:

- Centralized campus-wide licensing for software.
- Only software packages approved by IT staff are supported by the IT Help Desk.
- Software for backing up servers is purchased and a schedule for backups maintained.
- Computer users are encouraged to perform data backups for personal workstations.
- Employee training in software,

a(3) The primary means of maintaining currency is through **leadership and executive support** of IT initiatives. The Director of Information Technology is a member of the Cabinet. The President regularly convenes the ITSC, an advisory group with broad campus representation. Strategic documents, including the WNMU mission statement, strategic objectives, and the IT Strategic Plan, specifically identify goals and/or objectives for information technology. Each Vice President incorporates IT objectives into operational plans.

WNMU staff and faculty participate in **professional organizations** that provide best practices and standards for information technologies in higher education. Some of these organizations include Educause; New Mexico Consortium for Higher Education Computing Services (CHECS); Electronic Distance Education Network (EDEN): Consortium of College and University Media Centers (CCUMC); and New Mexico Consortium of Academic Libraries (NMCAL). Additionally, many faculty belong to discipline-specific organizations that provide best practices and standards for IT in their discipline.

Accreditation and certification standards often determine IT policies and procedures for academic programs. For example, the SOE is accredited by NCATE, which provides specific guidelines for teacher training in incorporating technology into the classroom. WNMU developed a curriculum to meet or exceed those guidelines. Pre-service teachers educated at WNMU must meet the New Mexico Department of Education's technology competencies. Those competencies are incorporated into the education curriculum.

Institutional collaboration and partnerships afford opportunities to maintain currency with peer institutions. In 1999 WNMU partnered with Eastern New Mexico University, New Mexico Highlands University, and New Mexico Institute of Mining and Technology to select and fund an information system. The consortium of four institutions selected SCT Banner and successfully sought state funding for implementation.

Funding opportunities provide another means of maintaining currency in information technologies since granting agencies require evidence of best practices and current standards. Recently received technology grants include a federal Department of Education FIPSE grant to provide faculty incentives to incorporate technology into the curriculum and to implement portal software. The Rural Utilities Service granted WNMU $300,000 to implement an Internet-Protocol-based videoconference network to provide classes for concurrent enrollment to four rural school systems in southwest NM. To our knowledge, it is the first IP-based videoconference network in New Mexico. WNMU seeks legislative funding for IT projects as well. These proposals undergo a rigorous review process through the Commission on Higher Education. The review process attempts to quantify the risk of the project; therefore, projects based on best practices and current technologies are preferred. Recently funded projects include the Active Learning project to team faculty with pre-service and in-service teachers to incorporate technology into the curriculum; and the Mobile Media Classroom project to provide computers and data projectors in more WNMU classrooms.

Faculty and staff are resources for ensuring the organization remains current with information technologies. Faculty make hardware and software requests on a regular basis. Departments propose hardware purchases to the appropriate VP. Each semester the manager of the academic computing labs and classrooms asks faculty for a list of software to install on the lab and classroom computers. The ITD and the academic departments negotiate the purchase of software.

Organizational Knowledge
b(1) Collection and transfer of knowledge among faculty and staff occurs through VP Councils, departmental meetings, workshops, publications, and cross functional teams that may include students and external stakeholders as well as poster sessions sharing assessment and Writing Across the Curriculum. Mustang Express provides opportunities for sharing information and setting up group distributions. Finally, because WNMU is a small campus transfer of information and best practices frequently occurs by personal interactions.

WNMU seeks to improve its processes for managing organizational knowledge through its AQIP Action Project for improving communication. The goal of the AQIP Communications Team is to improve communications processes with all campus constituencies. The team identified key communication processes related to managing organizational knowledge including training in effective communication, information dissemination, collection of knowledge, information storage and retrieval, dissemination of knowledge, effective use of knowledge for decision making, and assessment of communication processes. The AQIP Communications Team sets targets for improving each of these processes and makes suggestions regarding new communication processes.

b(2) WNMU protects the **integrity** of its data, information, and organizational knowledge through a data backup system that saves data to an alternative medium. The network firewall and virus protection software protect the network from external corruption. Through network logins and user profiles, WNMU controls the privileges to view, revise, add, or delete shared information.

WNMU ensures **timeliness of data** through the use of state-of-the art tools, such as the SCT Banner, Voyager integrated library system, Web page and portal software, and campus-wide licensing for a suite of office software. WNMU provides reports on schedule to its internal and external stakeholders, such as the reports to the CHE.

WNMU has established policies for the official repositories for different types of information in order to maintain the **reliability** of the data. The employee files maintained in the Human Resources Department, for example, are the official records for WNMU employees.

The policy rules written into the student information database ensure reliability of student data.

WNMU uses a variety of tools to ensure physical **security**, including limited access to repositories of key information. Only employees who need to enter those areas are given keys and/or codes. WNMU uses environmental controls to protect data. Buildings are maintained to minimize damage from fire and flood. Whenever possible, key information is made redundant using an alternative medium and saved in an off-site location.

WNMU achieves **accuracy** by hiring qualified staff, training them to perform their jobs, incorporating data validation guidelines within key reporting fields, and supervising their work.

WNMU follows FERPA guidelines in maintaining **confidential** information. For example, WNMU faculty are required to protect student grades by not posting them in a public place by social security number. User profiles determine the level of privilege a user has in viewing confidential information in the university databases. Employees who only need to view finance records, for example, do not have privileges to view student records in the management information system. WNMU recognizes the need to migrate away from the use of the social security number as the key identifier, and IT is designing a process to eliminate its use other than in those instances when it is required (such as for employee records).