

**Update Data Access/Consistency Group
Final Recommendations**

Data Governance

Montana State currently has a de facto system of data governance driven to support the needs of the University's Enterprise Resource Planning (ERP/Banner) system.

The Update Data Group strongly recommends that this model be changed in favor of an institutionalized framework that is more strategic and focused on creating standard processes for decision-making related to data. Increased maturation of these processes is an essential foundation for allowing Montana State to develop a robust data driven decision-making culture.

The Update Data Group recommends:

- The creation by October 2015 of the Montana State Data Governance Council (DGC) with the following areas of responsibility and authority:
 - Development of a five-year data infrastructure plan for the Montana State system
 - Prioritization (projects and operational processes) needed to mature and then document stewardship of institutional data
 - Definition of data elements needed for institutional reporting.
 - The DGC have the authority to approve Montana State data definition.
- The Chief Information Officer shall chair the DGC with membership from the following organizations.
 - Office of Planning and Analysis
 - Information Technology Enterprise Services Group
 - Human Resources
 - Administration and Finance
 - Student Success
 - Office of the Provost
 - A selected representative from each campus in the Montana State system.
- The DGC will meet on a monthly basis with minutes publicly reported via a website. Meeting schedules will be reviewed and adjusted as needed annually.
- Representatives will be serve for a two-year term.

Data Definitions

The Update group recognizes the vital importance of defining data elements to assure consistency of reports. The idata Data Cookbook is the institutional repository used by Montana State. However, the use of this tool is not mandatory and many data elements remain undefined.

The Update Date Group recommends:

- The DGC will review existing definitions in the cookbook.
- The DGC will charter a technical working group to to inventory public and operational reports generated for reporting by the campuses. This inventory

will include all mandatory reporting done for the Office of the Commissioner of Higher Education and for the Integrated Postsecondary Education Data System as well as non-mandatory public reports.

- For many “mandatory” reports the reporting entity, often a regulatory or statutory authority, will provide a definition.
 - For non-mandatory public reports, the organization preparing the report shall provide a definition of data elements.
- The technical working group will annually inventory all items in the cookbook as a formal report to the DGC. The first report from this group is due Oct 2016.
- Reports will be required, where practicable, to use existing definitions contained within the cookbook.

Staffing Resources for Data Infrastructure

Based on information provided via our deliberations, the working group notes with concern that there are no dedicated staff focused on data stewardship. If the system can not identify and address these needs Montana State will continue to face a slow maturation of needed infrastructure and data services.

In addition, the working group notes the substantial inefficiencies inherent in the current process of creating institutional reports using “data silos” that must persistently clean data elements that are never corrected in the base production ERP system.

The Update Data Group recommends:

- Montana State identify from existing technical and application staff resources personnel who can be focused on supporting the projects, reports, and infrastructure defined by the DGC.
- Montana State consider allocating existing staff from within the Enterprise Services Group to meet the proliferation of “cloud” based software requiring data integration with Banner and/or other enterprise systems.
- Montana State endorse the efforts of the Update Institutional Research group to identify and build coordination between those practicing institutional research across the campus to meet the growing need for additional analytic and reporting services.

Institutional Data Grand Challenges

Work on institutional data has typically been operationally focused and driven in response to reporting requirements or external requests. While substantial system, campus, and unit data exists there have only been isolated efforts to use long-term strategic priorities to define new analysis or approaches.

The Update Data Group recommends:

- A stakeholder group of OneMSU executives should define two Institutional Data Grand Challenges for the system in FY16 to drive cross-functional “tiger teams” who will work with our current data, infrastructure, and tools to: a) attempt new approaches to generating insight into existing institutional data, and b) gain a “real world” perspective on any limitations of our current institutional infrastructure to provide this insight.

- A formal report from the Grand Challenge team shall be made by January 2017 to the Data Governance and Enterprise Governing Councils. The report will recommend any changes needed to current processes, infrastructure, or services.

Procurement and Data Integration on the Bozeman Campus

The current processes for recognizing data integration needs for new systems and a common base for contractual negotiation related to data privacy and security are weak.

The UPdate Data Group recommends:

- Using the current IT procurement process as a model, a new electronic form shall be created for any software acquisition over \$5000 requiring the requestor to: a) determine what, if any, categories of data will need to be integrated into the system, b) determine if data stored in an ancillary system will likely be needed for institutional reporting.
- The Information Technology Center and the Office of Planning and Analysis will review the new data and reporting integration form within one month of submission.
 - Acquisition of software or systems shall not occur until the form is approved by both entities and MSU procurement.
- Based on the model used in current Montana State University Bozeman contracts for data security and privacy, the Information Technology Center and the Office of Procurement shall collaborate on boilerplate language to be used in all MSU contracts that addresses data sharing, recall, and ownership.
- Any system or software acquisitions done on behalf of the research mission of the university shall be exempt from this process but will trigger explicit notification to the principal investigator of their policy responsibilities to secure and provide stewardship for these institutional resources per MUS Board policy.

Enterprise Data Security

Substantial investments of time and financial resources are made to secure and protect personally identifiable information. However, as the breadth of data sharing increases across the enterprise so will vulnerabilities.

UPdate Data recommends:

- Montana State should accelerate the Bozeman campus deployment of the enterprise implementation of Identity Finder. This software helps identify for end-users confidential or personally identifiable data stored on their local computing hardware.
- MSU Billings, Great Falls, and Northern should formally evaluate the feasibility of deploying Identity Finder on their campuses. The IT leads from those campuses should report back on their recommendation to the DGC by August 2016.
- The Information Technology Center should document for Bozeman faculty and staff clear guidelines on where data should be stored in alignment with current data stewardship policies. ITC shall also provide outreach on information security best practices for the protection of institutional data.

- The university should retain on an annual basis a third-party firm to perform security and privacy testing against core institutional data assets (Banner/Degree Works/etc).
- The Information Technology Center should create an Information Technology Security Council to share best-practices and tools across the system. This group should be established by October 2015.