

Data Management Committee

Sub-Committee Report

On

UW Organization Data

Use and Improvements

Final Draft

June, 2009

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Executive Summary

Problem Statement: Organization Data is one of the most commonly used sets of institutional data used throughout a wide variety of University business information systems. Many systems use the *Financial Organization* data structure (commonly known as “Org Code”) to group financial data into a hierarchy for fiduciary reporting purposes. Over time, additional organizational hierarchies (e.g. campus designations, personnel management, workflow and approval, etc.) have been added into the same data structure. The structure is currently used for numerous purposes for which it is ill equipped to serve.

Key Findings: Some of the key findings regarding the management and use of Organization Data in this report include:

- Limits ability to implement strategic projects like the Financial Systems Needs Assessment and Replacement
- Lack of consistency in defining and maintaining leads to significant operational inefficiencies of duplicated efforts to make the information usable
- Increases the risk of misinterpretation of information leading to poor decision making
- Increases compliance risks of inaccurate financial reporting and security access controls

Major Recommendations: Several detailed recommendations for improving the management and use of organization data are included in this report, including:

- Charge the Office of Planning and Budgeting and Rules Coordination Office with responsibility to establish new governance processes around Financial Organization and University’s Organization Chart
- Charge the Office of Information Management to take a lead role in developing new “Master Data Management” systems to manage and use Organizational Data
- Charge the Office of Information Management to track historical changes to Organization Data in the Enterprise Data Warehouse
- Charge the Office of Information Management to coordinate improvements to Financial Organization Data in coordination with the Financial Systems Needs Assessment project
- Charge the Data Management Committee to identify “Primary Contacts” in relation to each hierarchy of Organization Data to help communicate data changes to impacted units

Conclusion: As business operations throughout the University have already created workarounds to these overwhelming issues, one could say there is little additional cost in maintaining the status quo. However, the more important risks lie in the University's ability to properly execute new strategic technological initiatives. A builder would not add an extra story to a house with a cracked foundation and leaking plumbing. Likewise, the university cannot expect to build and deploy new applications that rely on the existing Financial Organization Data structure to provide all organizational information, without expecting serious costs and problems as the current infrastructure is stressed even further beyond its limits. By implementing the recommendations in this report the University will increase efficiencies, reduce risks, and institute best practices which will help us avoid similar problems in the future.

Context

Overview

All units at the University of Washington need timely and accurate information about the organizational structure of the University for the purposes of effective decision making and satisfying reporting requirements.

The *Financial Organization*, more commonly known as the *Org Code*, is a set of institutional master data that supports, in one way or the other, the majority of enterprise business and academic systems. Financial Organization is so-called because it originates in the Financial Accounting System (FAS), and was originally designed as a hierarchical data set that allows *financial* information to be aggregated and reported at multiple levels. Today, the Financial Organization has broad use outside of its intended purpose, in enterprise and local systems at the University, and is currently the primary source of organizational information.

Problem

The Financial Organization is managed at a level that is below that which is required by users. It does not rigorously adhere to a defined set of business rules, is difficult to update and maintain due to its outdated structure and implementation, and is used for many purposes for which it was not designed and for which it does not effectively support. Due to its pervasive nature, the Financial Organization impacts nearly every major enterprise technology implementation.

As a result, significant resources are spent supporting workarounds and downstream data correction. A number of systems are either sub-optimized, because they rely on a data set with marginal data quality and limited flexibility, or redundant structures are developed where higher data quality or flexibility are required, requiring additional resources in terms of duplicate efforts, synchronization and maintenance by multiple organizations.

At the current time, most Central Administration Units that are responsible for enterprise analysis, reporting and decision support, spend considerable efforts addressing data quality issues. Given constrained resources, these efforts come at the cost of conducting meaningful analysis and providing University leadership with useful information for decision making.

Scope and Impact

The topic of organizational structures is complex because of widespread application and high impact. When viewed in the context of the [UW Data Map](#), organizational structures are Master Data, and therefore act as foundational information that support all other university operations. The efforts of this sub-committee team were initially focused specifically on the Financial Organization as implemented in the mainframe financial systems. However, the topic of organizational structures, and particularly, the complexities and challenges with the Financial Organization exist largely outside of the field of finance and technology in general.

Information about the organizational structures have comprehensive implications for the majority of the institution's operations, including, but not limited to:

- Reporting relationships and personnel management
- Fiduciary responsibilities
- Roles and delegation of authority
- Financial and budgetary authority
- Financial and managerial reporting
- Operational workflow and approval
- Access to and control of information
- Compliance reporting to the US Government, the State of Washington and various other domestic and foreign entities
- Accreditation
- Management, planning and allocation of physical resources, including space
- Relationships with peer institutions, researchers, alumni, donors, employees, students, patients and outside organizations
- Operational and strategic analysis; and many others.

Each of these business needs is hindered because of a dearth of accurate organizational information. Current and future efforts to build new systems without a proper foundation that includes robust organizational information will simply exacerbate the problem.

Previous Work

In May 2008, Brandon Whitehead (Academic Personnel) and Dinah Walters (Finance and Facilities) authored a white paper discussing the original intent, as well as current status, including problems with the Financial Organization. The primary concern was the lack of stewardship of the Org Code as well as a lack of understanding about its implementation.

A more comprehensive overview of the design and challenges with the Financial Organization are described in the "Overview of the Financial Organization" section of the Addendum.

Sub-Committee Charge

In order to address the challenges posed by the Financial Organization, the Data Management Committee charged a sub-committee with the task of conducting further analysis of the Financial Organization.

The team was charged with the task of investigating short and mid-term solutions regarding the Financial Organization, as well as the broader task of investigating long-term needs and solutions for managing organizational information for enterprise systems at the UW.

The primary responsibilities of the team were to collect information, perform analysis, and advise. The sub-committee commenced on August 11, 2008, and concluded its efforts on March 15, 2009 following eleven hour-long meetings.

Analysis and Findings

Overview

The subject of organizational structures at the UW is both wide and deep in scope. Therefore, the efforts and findings of this sub-committee should be viewed as an initial step in a much longer-term processes that will require additional research, analysis, and implementation conducted in an iterative but decisive manner.

The results and findings are delineated by the four initial objectives set forth by the Organization Sub-committee. The four objectives are:

- Existing Organizational Structures
- Change Management of Financial Organization Data
- Future Organization Structures
- Stewardship

Discussion of each objective follows the following structure:

- Objective
- Approach
- Results and Findings
- Recommendations

For the purposes of clarity, recommendations are indicated in the discussion, but described in the following section so that they can be easily viewed comprehensively. Recommendations that are labeled “A” are recommendations for immediate consideration, those that are “B” are short-term recommendations, those that are “C” are mid-term recommendations, and those that are “D” are long-term.

Existing Organizational Structures

In any change management processes, it is important to document and understand the “as-is” implementation before engaging in the development of “to-be” scenarios. This allows for more complete coverage of the existing business needs when developing new solutions.

Objective:

Perform analysis on the uses and implementations of existing systems-based organizational structures at the UW.

Approach:

The team brainstormed and attempted to aggregate, based on the organizational and operational breadth of the team, as comprehensive a list as possible of existing organizational structures at the UW. The team focused on specific uses of the Financial Organization as a starting point.

Results and Findings:

Analysis described by objective above was limited. The team was able to collect and organize a fairly comprehensive list of uses and implementations of the Financial Organization as it relates to enterprise systems. However, analysis of other organizational mechanisms in enterprise systems was not completed. There are many existing organizational representations in many systems other than the Financial Organization in both central systems, and in departmental systems that demand further analysis.

The results of this objective can be reviewed in the "Entities Being Organized" and "Organizational Activities" sections of the Addendum, which offer details regarding the types and diversity of information that is being organized.

Recommendations:

A more comprehensive understanding of existing organizational structures would facilitate the process of conducting needs assessments for future systems, such as the Financial Systems Needs Assessment (FSNA). While not always optimized, the majority of the University's business needs are already implemented in one system or another. By understanding these implementations and the underlying needs they support, the University is more effectively positioned to make better decisions and reasonable compromises regarding future technology implementations. See Recommendation C-2 for details.

Change Management of the Financial Organization

Objective:

Document specifications and change management procedures for the Financial Organization, and provide recommendations as necessary for improvements.

Approach:

Because of its wide and diverse usage, changes to the structure of the Financial Organization can have a large downstream impact. At the same time, poorly managed or outdated data can cause inaccurate reporting and lead to the development of workarounds. The best solution is to have clearly documented business rules, and make timely updates to the Financial Organization with a thorough understanding of the implications of those changes.

The team collected and organized information about implementation details, usage, and existing business rules about the Financial Organization.

Results and Findings:

Implementation details regarding the Financial Organization are documented in the "Overview of the Financial Organization" section of the Addendum.

The "Financial Organization Application Matrix" in the Addendum describes the applications of the Financial Organization in enterprise systems, and is an important component of future change management implementations. While the matrix is fairly comprehensive, it is not exhaustive, and only includes centrally managed systems. It is likely that a vast number of departmental systems not included in the matrix implement the Financial Organization in one form or another.

Recommendations:

Three major concerns regarding the Financial Organization are:

- Availability of clear business rules
- Timely access to Financial Organization data
- Data quality

The sub-committee was not able to formulate high-level business rules or change management procedures for the Financial Organization. However, the sub-committee describes a resolution to this issue in Recommendation *B-1* and the "Suggested Business Rules for Financial Organization" section of the Addendum provides additional support. Recommendations *B-7*, *B-8* and *B-9* address the issue of timely access to Financial Organization data, and Recommendations *B-10*, *B-11* and *C-1* address solutions to data quality issues.

Future Organizational Structures

Objective:

Conduct a needs analysis and provide recommendations for future organizational structures and implementations thereof.

Approach:

The sub-committee analyzed information regarding existing structures and unmet needs based on the anecdotal experience of the sub-committee members, leveraging the organizational and operational breadth of the sub-committee as a whole. Four of the sub-committee members have significant experience with data modeling and master data, and worked to develop a prototypical solution.

Results and Findings:

The current needs of the University require the availability of multiple sets of comprehensive and actively managed organizational information. The Financial Organization structure is not capable

of effectively managing the University's needs for organizational information. At a minimum, separate structures are likely necessary to support each of the six subject areas of the UW Data Map that are supported by Master Data:

- Academics
- Alumni & Development
- Financial Resources
- Human Resources
- Research
- Services & Resources

While improving management of Financial Organization is necessary, this effort alone will not sufficiently address current business demands. In order for the University to effectively support the future needs of enterprise and departmental systems, new technology tools will be required to address two different issues:

- Supporting multiple organizational structures, both centrally and locally
- Allowing the management of relationships between these structures

Management of academic information, such as data about students, enrollments, degrees, and courses will require a very different structure than that required to manage the personnel relationships between faculty, administrators, and university leadership, which will in turn, require different structures to organize the funding that support the teaching, research and service endeavors of the university. In order to conduct analysis that crosses these different subject areas, such as Activity-Based Budgeting, additional organizational and relationship information will be required to connect these areas. For example, it would be difficult to conduct an analysis of student credit-hours supported by each faculty member in a college if information connecting a faculty member appointed in that college cannot be connected to a course in which a student is enrolled.

Recommendations:

Recommendation *C-2* aims at understanding these business needs and connections.

Successful management of organizational information will involve more than simply identifying business owners and providing technical solutions. Organizational information is Master Data, the hub of the UW Data Map, because it serves as the foundation for numerous processes and systems. This information needs to be managed as part of a comprehensive Master Data Management program. Recommendation *C-3* is aimed at addressing the technology component of such a program.

Recommendations *B-12*, *C-3* and *D-1* aim to resolve these needs by providing a system in which data that describes these organizational structures and relationships can be managed and used, both by central administration units for enterprise needs, as well as by departments for their own localized needs. For more detailed information regarding the above referenced application, see

"Technical Specifications for an Entity-Relationship Master Data Application" section of the Addendum.

Stewardship

Objective:

Determine stewardship for organizational structures.

Approach:

Technical implementations, either existing or new cannot be successfully leveraged without proper support from business units, including clear delineations of responsibility. The sub-committee attempted to analyze existing business practices in order to identify bottlenecks and points of ambiguity as well as logical points of control, based on current organizational and operational structures. The sub-committee placed a strong emphasis on managing existing structures, including the Financial Organization and University Organization Chart.

Results and Findings:

While technically insufficient to meet the diverse needs of the university, the Financial Organization is the most important systems-based implementation of an organizational structure at the University today. It needs to be maintained as accurately as possible with robust adherence to documented and published business rules.

Because of the lack of a more flexible technological solution, the need has occurred on occasion to deviate from the expected rules in order to facilitate pressing business needs. One example is the organization of South Lake Union as a separate physical location (typically the *Financial Organization* represents major organizational units, and not physical location).

There are a number of existing organizational structures of key importance to the University of Washington. While the Financial Organization has high impact due to its pervasive technical implementation, the *University Organization Chart* and the *University-Wide Organization List*, published in sections 1.1 and 1.2 respectively of the Administrative Policy Statements, are of high importance and visibility as well. The chart appears to have been updated very recently.

Recommendations:

Organizational structures, especially the *Financial Organization*, require clear ownership and stewardship by appropriate business units and need to adhere to clear business rules that are made broadly available. This eliminates the ambiguity that creates the numerous problems we experience today. When situations such as the need to deviate from existing business rules occur, they should be documented as known exceptions. See Recommendations *A-1*, *A-2*, *B-1* and *B-6*, below for details regarding the maintenance of the *Financial Organization*.

Prior to the most recent update, the *University Organization Chart* had not been updated in nearly three years. This document, and the *University-Wide Organization List*, is important for a number of university processes because they indicate reporting relationships, in many cases, indicate delegation of authority, and should be kept up-to-date. See Recommendations B-2, B-3, B-4 and B-5 for more details.

Recommendations

Recommendations are separated into *Immediate-Term*, *Short-Term*, *Mid-Term* and *Long-Term*. These delineations are based less on specific time periods, and more on overall timing: a number of recommendations in later sections depend on the implementation of earlier recommendations.

Overall Recommendation

Development and support of proper business rules and processes for the Financial Organization combined with the development and support of a new set of Organizational Master Data will alleviate a significant quantity of wasted resources that is currently spent coping with the limitations of current systems, and will allow analysts to deliver accurate and timely information for decision making.

Successful improvements to the Financial Organization will require operational changes at *all levels* of central administration, including the Office of the President, the Office of the Provost, the Office of the Senior Vice President for Finance and Facilities, the Office of Information Management, the Office of Planning and Budgeting, and the Rules Coordination Office.

Immediate-Term

- **A-1:** Request that all organizational changes that require approval by the Board of Regents, the President, the Provost or the Senior Vice President be officially and promptly communicated to Planning and Budgeting, with official names, titles and effective dates. This is a responsibility that lies with the office of the President, Provost and Senior Vice President.
- **A-2:** Charge Planning and Budgeting with official stewardship responsibility for the Financial Organization, including responsibility for uniformly evaluating, approving and documenting all changes to the department and higher levels (first seven digits) of the Financial Organization coding and naming structure. Request that Planning and Budgeting report on changes to the Financial Organization to the Data Management Committee for the purposes of determining the scope and nature of changes until the provisions of Recommendation B-1 are satisfied.

Short-Term

- **B-1:** Formulate, document, validate, communicate and enforce official business rules and process for management of the Financial Organization structure and University Organization Chart, including formal communication channels.
 - Existing and future exceptions should be documented.
 - Rules should be reviewed to ensure alignment with external regulatory and compliance requirements as well as internal interdisciplinary needs.
 - Planning and Budgeting should coordinate material changes to the Financial Organization with representatives from Finance and Facilities, Human Resources, Academic Personnel and the Office of Research.

See "Suggested Business Rules for the Financial Organization" in the Addendum.

- **B-2:** Request that the President, Provost and Senior Vice President support the stewardship the Financial Organization and University Organization Chart by Planning and Budgeting and the Rules Coordination Office respectively.
- **B-3:** Recommend that the Rules Coordination Office publish an updated University Organization Chart.
- **B-4:** Recommend that the graphical version of the University Organization Chart be updated not less than annually.
- **B-5:** Recommend that a text based version of the University Organization Chart be updated after every organizational change.
- **B-6:** Identify primary contact person for each entry in the Financial Organization, to the seven-digit level.
- **B-7:** Deploy Financial Organization and Budget Index data that includes comprehensive history and time-variance. Deploying this data as tables in the Enterprise Data Warehouse would facilitate enterprise analysis and reporting. Deploying this data as part of a resource-oriented architecture may also be valuable. Both mediums align with current information delivery strategies.
- **B-8:** Deploy enterprise reports of the *Financial Organization* and the *Budget Index to Financial Organization relationships*, to be downloadable to various formats and limited by any partial org code, or to display all Org Codes, for any given effective date.
- **B-9:** OIM to make information available to business partners regarding processes and mechanisms to conduct bulk-updates to the Financial Organization. This would facilitate the data entry required by a reorganization of the Org Code.
- **B-10:** Rename existing entries and remove and consolidate unused entries in the Financial Organization, to more closely reflect the current organizational structure of the University.
- **B-11:** Develop and deploy automated data quality reporting and audit mechanisms to ensure adherence to business rules (see B-1 above).
- **B-12:** DMC should conduct an evaluation of the current Proof of Concept Entity-Relationship Application developed by Academic Personnel.

Mid-Term

- **C-1:** Develop and implement a complete reorganization of the Financial Organization in order to reflect developed business rules (see B-1), and to more closely resemble fiduciary and reporting relationships. Central Administration should be separated from the Seattle Campus academic units. A revised structure should be reviewed to ensure alignment with external regulatory and compliance requirements. See "Suggestions for Revision of the Financial Organization" in the Addendum.
- **C-2:** Conduct a comprehensive analysis of organizational structures in other university systems.
 - Identify additional systems that use or implement the Financial Organization, using the results of the OIM Systems Inventory.
 - Conduct an expanded analysis of organizational mechanisms in other University systems (as identified above), including relationships between organizational structures across systems, such as those connecting the Student Database (SDB) to the Payroll/Personnel System (HEPPS).
 - Conduct a more thorough investigation of the *underlying organizational needs or requirements* of systems that implement the Financial Organization or a variation thereof.
 - Conduct an analysis of organizational structures as they apply to current and future needs assessments and systems considerations, including the Financial Systems Needs Assessment.
- **C-3:** OIM should coordinate the development and evaluation of a prototype Master Data application. This application would be the System of Record for organizational data that would govern financial, administrative, research, academic and other relationships within the university. This application and data would be managed within the context of a comprehensive Master Data Management program supported by OIM. See "Technical Specifications for Entity-Relationship Master Data Application" in the Addendum.

Long-Term

- **D-1:** Create, maintain, and make available a centrally managed collection of organizational information and relationships between systems in a production Master Data Application, as part of a comprehensive Master Data Management program.
 - Central systems to be linked include, but are not limited to:
 - Financial Systems
 - Student Systems
 - Payroll/Personnel Systems
 - Budget Systems
 - Identity Management and Authorization Systems

- Work Flow Management Systems
 - The application should additionally allow organizational units to manage their own local sets of organizational information within the application, and relate these data sets to centrally managed data sets.
 - Develop and deploy a clear set of interfaces to facilitate distributed access to the application data, including the ability to query, use and maintain data in a distributed and platform-independent manner.
 - Develop clear and comprehensive documentation to support development of distributed applications and access to application data.
 - Consolidate and relate information about the Financial Organization within the Entity-Relationship application.