

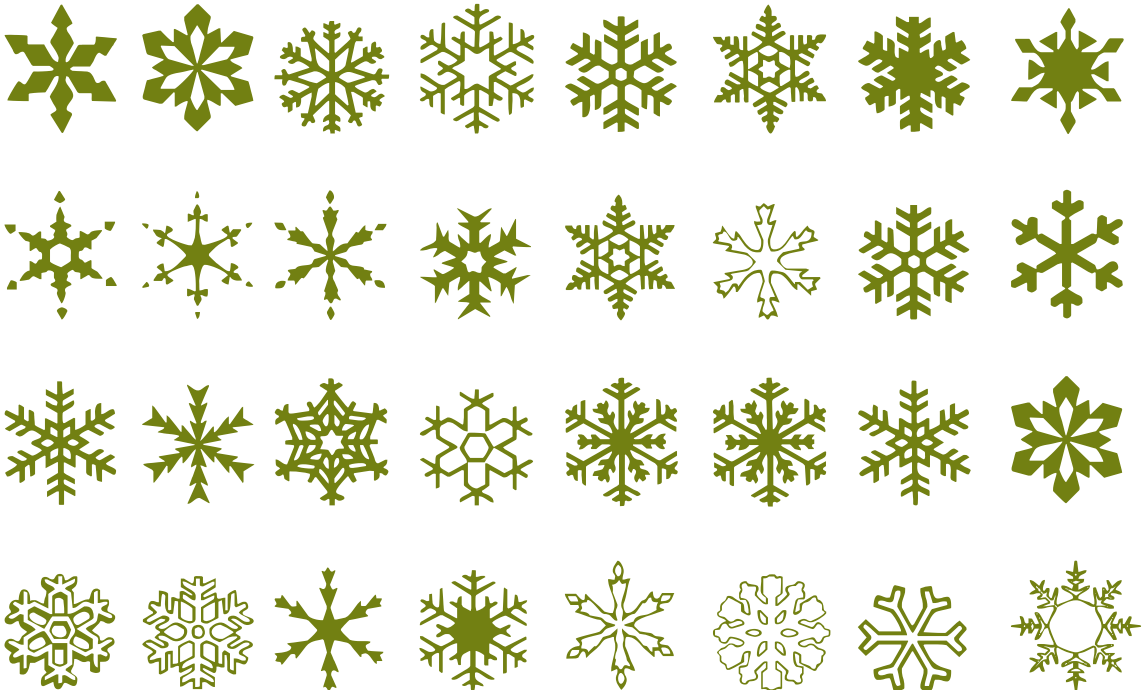
TIMA^F

The Information Management Foundation

Volume
1

BEST PRACTICES

INFORMATION MANAGEMENT Best Practices



Bob Boiko, Erik M. Hartman (ed.)

Information Management Best Practices - Volume 1

“Regardless of the kind of information you need to manage, this book will make your projects better.”

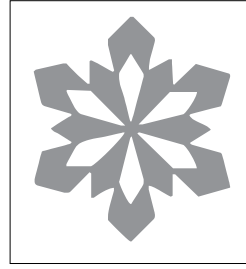
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Bill Yock

Governing Data Management

Creating a Constitutional Democracy for Data Management

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ABSTRACT

The University of Washington (UW) has a large number of extremely complex information systems. These systems include not only large administrative ERP business systems (Finance, HR, Payroll, etc.), but also a wide spectrum of educational and business specific systems (Research Administration, Student Information Systems, Housing and Food Services, etc.). The "Institutional Data" within these systems is a strategic asset of the University, and the appropriate governance for management and use of the data is critical the University's operations. Inappropriate governance can result in serious inefficiencies and risk exposures. A consistent, repeatable, and sustainable approach to governance over Institutional Data is necessary to deal with the inevitable data management governance questions that arise like: Who is responsible for determining what data is sensitive? (confidential, restricted, etc.) What rules determine who can have access to sensitive data? When there is disagreement over the meaning of data how can it be reconciled? What guidelines should exist to control copying and retaining data? Where do users go when they have questions or problems?

To deal with these complex issues the UW has created a "constitutional democracy" approach to governance. A policy document serves as our base "constitution" setting forth principles, definitions, and responsibilities. Guidance documents serve as "amendments" to the constitution, which help authorities interpret issues and make decisions. Data Trustees serve as an "executive branch", with authority to administer and enforce policies and guidelines. Data Custodians are the "judicial branch", organized according to specific domains of data under their jurisdiction. (Student Admissions and Enrollments, Research Proposals, etc.) A Data Management Committee (DMC) serves as the "legislative" branch, helping to write new laws and lobby for change in existing practices. The numerous information management personnel across the university are the "citizens" responsible for following the laws and administering data management best practices. By following a constitutional democracy approach the UW "data management republic" is working in a more cohesive and streamlined fashion than ever before. The approach has proven to be repeatable and sustainable.

Background

The Data Management Committee highlighted in this best practice was initiated at the same time the University of Washington established the Office of Information Management under the direction of the Provost. The formation of these new governance bodies was proposed in a special report issued in December of 2006. The Future of Information Systems Task Force Report, and recent information about the Office of Information Management, are available at: <http://www.washington.edu/provost/oim> .

THE SKILLS NEEDED TO PERFORM THIS BEST PRACTICE

To follow our method you will need these sorts of people:

- **A Sponsor:** Someone in an executive position to give you the mandate to carry out the process.
- **A Champion:** Someone well placed in your organization who promotes your initiative. This is a critical role.
- **A Manager:** Someone to drive the process forward and manage the details.
- **A Governing Group:** On a day to day basis, there are many decisions to be made that impact diverse groups within your organization. We found that a governing group with representatives from across the university worked well to provide the context, brain power, and authority to make and promote our decisions.

STEP 1: FOMENT REVOLUTION

Find Revolutionary Leaders

The major administrative information systems at UW are primarily 20 to 30 year old main-frame COBOL based systems, which are batch

and transaction oriented. It is not easy to access the data for analytical and reporting purposes. This lack of easy access to data resulted in many units performing downloads of data into their own “shadow systems”. This situation lead to anarchy amongst data management professionals, resulting in everyone interpreting the data according to their own rules and definitions. Reports coming out of central offices seldom balanced with reports generated by academic units. Frustration and resentment had reached a feverish new height in 2005.

In response to this anarchy Mike Eisenberg, Dean Emeritus of the Information School at UW, helped bring together the Deans, Administrators, and Computing Directors of the academic units into a coalition called the IT Resource Sharing Group. Under Mike’s strong influence and persuasion this group met on a regular basis to discuss common needs and solutions. The group chartered several important studies that provided a strategic direction for advancing information system improvements. The Future of Information Systems Task Force Report called for sweeping reforms and new governance. In late 2006, under the direction of Provost Phyllis Wise, a new Office of Information Management was established along with a new Data Management Committee (DMC). The DMC was launched under the responsibility of Sara Gomez, CIO of the Office of Information Management (OIM).

Destabilize the Old Regime

One of the primary symptoms of the need for a revolution in data governance was dysfunction within the Enterprise Data Warehouse (EDW) program. That program had been operating for several years with substantial barriers to widespread adoption and success. These barriers consisted of the typical data management

challenges like lack of access control and lack of data definitions. Many well-meaning individuals met on a regular basis in a Data Management User Group (DMUG) to try to resolve these issues, but it was clear that they lacked authority and accountability. The EDW often served as a bottleneck to progress, rather than generating solutions. For example, when EDW managers denied access to sensitive data in the warehouse to certain users (at the strong request of other DMUG members who felt responsibility over that data), they were caught in the middle of disputes over access. EDW managers would attend DMUG meetings, challenging the assumptions that the EDW members made regarding their personal opinions regarding data management best practices. With the formation of the DMC, the DMUG was disbanded and replaced with a forum to officially set data management rules, raise and resolve difficult issues, and enforce the decisions that were made.

In addition to the EDW program within OIM, many other administrative central offices and units (Human Resources, Payroll, Planning & Budgeting, Institutional Studies, Financial Management, Deans Offices, etc.) work with institutional data. They too faced the same issues that confronted the EDW. Many of the leaders of these units were recruited to serve as committee members on the DMC. They have become an active “congress” in establishing rules and guidance on data governance. They have also become cornerstones in the task forces created by the DMC to tackle tough problems.

Declare a New Regime

The legitimacy of the Data Management Committee was established by a Charge Letter from the Provost to each committee member. Many important projects and programs are often initiated by charge letters from the Provost at UW; the letter highlighted the

urgency and importance of establishing data management and business process best practices. The appointment of Mike Eisenberg as chairman established the credibility that the DMC needed to succeed. His influence and political respect among the President, Provost, Vice Provosts, Vice Presidents, Deans, and Chancellors enabled the fledgling democracy to take root. The revolution had begun.

STEP 2: ESTABLISH A CONSTITUTION

Create a Preamble and Bill of Rights

Early in the formation of the DMC, it became apparent that we needed to articulate a new set of laws that would provide a solid foundation of principles and best practices. I researched the websites of many other universities to gather input on how they organized and defined data management practices. While each had unique methods and processes, all had common “policy essentials” which have become our “Bill of Rights” of data management best practices. These policy essentials can be boiled down into the common types of:

- **Value:** Data and information are important assets.
- **Risk:** Data and information need to be protected.
- **Quality:** Data and information need to be improved continually.
- **Availability:** Data and information need to be accessible.
- **Accountability:** Someone is responsible for data and information.

All of these themes were common to the needs UW’s needs. Building upon the themes found on other websites, I constructed a draft list of policy statement essentials. The DMC members

then reviewed, deliberated, and refined these essentials to reflect the UW's unique challenges. The DMC met on a bi-weekly basis; and over the course of several meetings we worked on each of these together. This resulted in the current set of UW policy essentials, which are:

- **Institutional Data is the property of the University of Washington and shall be managed as a key asset.** – Institutional Data will be managed through defined governance guidelines, standards, policies and procedures.
- **Unnecessary duplication of Institutional Data is discouraged.** – Data Custodians (defined below) shall be responsible for sharing Institutional Data out of official Systems of Record, when reasonable and according to policies and procedures, so as to minimize redundant storage and processing of that data in multiple repositories. Exceptions are allowed for purposes of business continuity and fail-over. Unnecessary maintenance of Institutional Data is discouraged. – When the same Institutional Data elements exist in multiple Systems of Record, the official values must be kept synchronized. When feasible, manual updates of Institutional Data should be performed in one System of Record and then automatically copied to as few other additional data repositories as possible. This eliminates redundant processing, increases integrity, and provides better auditing capabilities.
- **Quality standards for Institutional Data shall be defined and monitored.** – Data quality standards shall be defined, published, communicated, managed, and applied according to the reliability and risk levels established by appropriate Data Custodians (defined below). Examples of data quality standards include: data validation rules, timeliness of updates, defined error rates, integrity monitoring processes, etc.
- **Institutional Data shall be protected** – Insti-

tutional Data must be safeguarded and protected according to approved security, privacy and compliance guidelines, laws, and regulations established by the University of Washington, the State, or the Federal government.

- **Institutional Data shall be accessible according to defined needs and roles.** – Institutional Data and Metadata shall be accessible to all, in accordance with defined access and use policies and procedures determined by the Data Management Committee and Data Custodians (defined below). Users requesting access shall be assigned to appropriate roles that have clearly documented guidelines in accordance with all UW, State, and Federal laws and regulations.
- **Institutional Metadata shall be recorded, managed, and utilized** .– Metadata will be used to model, define, and organize data in order to maximize the value of Institutional Data. Institutional Metadata will be published and communicated clearly and consistently.
- **Institutional representatives will be held accountable to their roles and responsibilities.** – Roles and responsibilities for data management will be clearly defined, and individuals assigned to specific roles will be held accountable for performing data management responsibilities, as a part of their regular job responsibilities.

These types of policy essentials were relatively easy for the DMC members to agree to; they speak directly to common pains of value, quality, etc. The language was purposely very “authoritative” using terms like “shall be”. These policy essentials form the first eight amendments to our constitution providing clear, irrefutable principles.

Articles of Definition

While the policy essentials were relatively easy for DMC members to agree on and establish, the context in which the policy essentials are

applied became more challenging. One key question which emerged is: “What data needs to be managed?” In order to provide the needed context, the DMC started work on the “Definitions” section of the policy document. These too were developed in an iterative fashion. We devoted a portion of each meeting to reviewing and redrafting the language, but this section evolved over a much longer period of time than the essentials. The current definitions are:

- **Institutional Data:** “Institutional Data” is defined as all data elements which are created, received, maintained, or transmitted by the University of Washington. Institutional Data can be *contained* in any form, including but not limited to documents, databases, spreadsheets, email and websites; *represented* in any form, including but not limited to letters, numbers, words, pictures, sounds, symbols, or any combination thereof; *communicated* in any form, including but not limited to handwriting, printing, photo copying, photographing, and web publishing; and *recorded* upon any form, including but not limited to papers, maps, films, prints, discs, drives, memory sticks and other computing devices.
- **Institutional Metadata:** “Institutional Metadata” is additional data collected, maintained, and used which generally describes and defines the processes around the management of Institutional Data. Examples of Institutional Metadata include:
 - Definitions regarding the purpose, usage and context of Institutional Data.
 - Identification of which system is the official system of record of Institutional Data.
 - Who is responsible for management of Institutional Data.
 - How Institutional Data is transferred, derived, and stored.
 - What security and privacy practices are used to safeguard Institutional Data.
 - Risk and compliance classifications for

Institutional Data.

- Rules around retention of records and data.
- **System of Record:** A “System of Record” is an information system that is designated by Data Custodians (defined below) as holding *official values* of Institutional Data. Official values are the data designated as the most accurate representation of the meaning and context of Institutional Data elements, which are recorded as facts. Official values are not necessarily the originally entered values, and as such, a System of Record may not necessarily be the system where values are originally entered. When questions arise over the meaning or interpretation of data elements or their values, the System of Record is used to resolve discrepancies.
- **Institutional Data Warehouse Repositories:** Institutional Data is often copied from Systems of Record into other systems, for ease of access, or to facilitate historical storage of data. UW’s Enterprise Data Warehouse is an example of this type of additional data repository. Since Systems of Record may purge Institutional Data on defined schedules, these types of additional data repositories contain Institutional Data that survives beyond what the System of Record contains. They then become a System of Record holding official values of Institutional Data. These additional Institutional Data Warehouse Repositories are designated by Data Custodians (defined below) and are subject to the same policies and procedures that govern the use of Institutional Data.
- **Departmental/Unit/Local Data Repositories:** Various UW departments or units copy Institutional Data from Systems of Record into their own departmental, unit, or local data repositories. Any Departmental/Unit / Local Data Repository that contains a copy of Institutional Data are subject to the same policies and procedures which govern the use of Institutional Data.
- **Subject Area Domains:** Institutional Data is

classified according to specific high-level “Subject Area Domains” for the purpose of assigning accountability and responsibilities over that data. The Subject Area Domains are defined and maintained by the Data Management Committee (defined below). The Data Management Committee refers to this classification as the *UW Data Map* and maintains a copy of it on its website (1). Examples of high-level Subject Area Domains are Human Resources, Academics, Financial Resources, Alumni and Development, etc. The UW Data Map also further defines specific Business Domains within each Subject Area Domain. Examples of *Business Domains* within the Academics Subject Area Domain are Curriculum and Courses, Financial Aid, Applications

Admissions and Enrollments, Transcripts Degrees and Awards, etc.

These articles of definition provide important context for agreeing to principles around data management best practices and developing procedures and standards.

Map and Divide the Data Territory

Once the basic definitions were defined, it became important to establish the scope of data to be managed. The Enterprise Data Warehouse program was a good place to look to help provide a perspective on scope. The EDW had started creating a “taxonomy” of data subject area domains which we called the **UW Data Map**. This taxonomy has become a useful tool

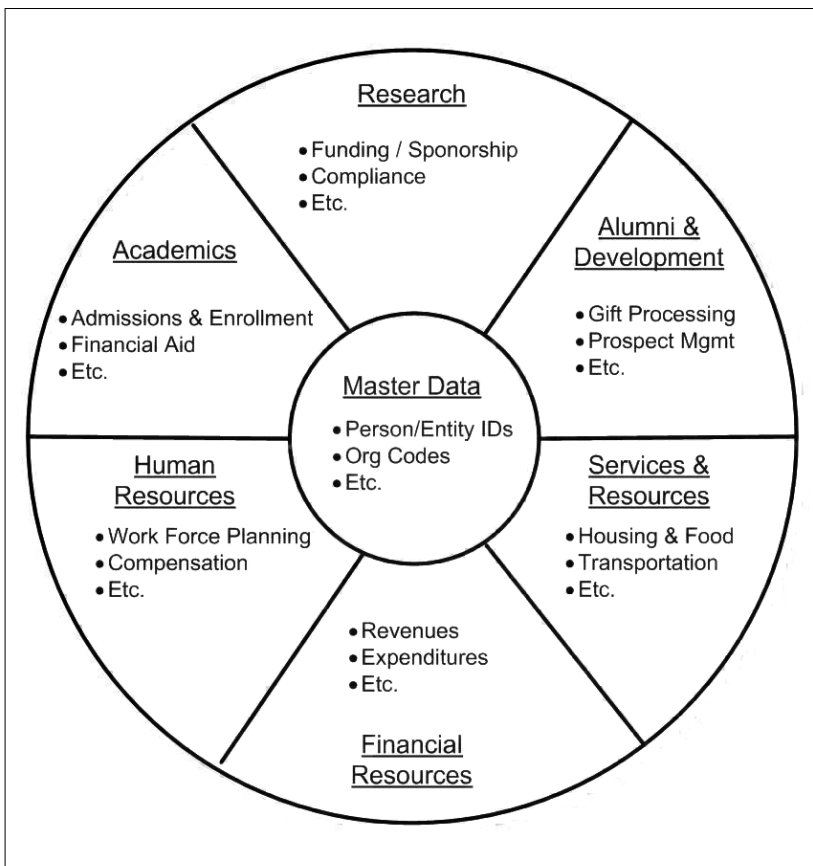


Figure 1: High-level Data Map

in organizing systems and data and in identifying accountabilities. It is purposely a high-level conceptual perspective of major business functionalities at a university, not just a reflection of current organizational departments or functional systems. Figure 1 is a high-level conceptual visualization of the UW Data Map.

The UW Data Map is also being used to help organize the development of the Enterprise Data Warehouse. The Master Data section in the middle represents an interesting “integration” challenge to data management. The data elements in this section are data points that are common across many of the domains, and are used in a variety of systems. Coordinating and managing this data is challenging, in that there are multiple viewpoints and interests in the data usage.

The current UW Data Map represents “administrative” data domains only. The DMC intends to help create other slices in the data map pie for other domains as needed. Data maps for “clinical” data domains and “academic” data domains have been discussed. Starting with a good high-level conceptual domain model for these other disciplines will facilitate quick identification of appropriate Data Custodians and Data Trustees for the data.

The DMC collaborated refining the UW Data Map by filling in the major business processes and descriptions for the subject areas. Finding the right hierarchy and level of detail was a challenge. We set some ground rules to try to help keep it manageable. Initially we settled on seven major subject areas (Master Data, Academics, Research, Financial Resources, Human Resources, Alumni and Development, and Services and Resources). Within each subject area, we attempted to divide by only 10 or 12 major business processes. The Services and Resource subject area was particularly challenging, given the wide variety of business services and systems it represents; we deliber-

ated on whether or not it should have its own data map taxonomy. For now, it remains part of the overall “administrative” taxonomy, but in the future we may decide to create a separate data map for it.

Separate Power

With a base UW Data Map taxonomy defined, the DMC turned its attention to identifying who the appropriate Data Custodians and Data Trustees might be. The DMC “unofficially” assigned persons according to their job functions. The process for debating and assigning the people was similar to the process for creating the policy essentials and definitions; it was a regular agenda item in recurring meetings. Table 1 is an example of the UW Data Map and Data Custodian and Data Trustee assignment list for the “Research” subject area domain. Note that anywhere from one to four Data Custodians were identified for each subject area and business process domain.

Research – Administrative Data Related to Research Activities			
Business Domain	Description / Business Processes	Data Custodians	Data Trustees
Funded / Sponsored Research	Grants, contracts, awards, cooperative agreements, equipment & resource sharing agreements, etc.	Associate Vice Provost for Research Compliance & Operations Associate Vice President, Financial Management	VP Research Senior Vice President, Finance and Facilities
Departmental Research	Material transfers, Dean / Unit support, internal funding	Associate Vice Provost for Research Compliance & Operations	VP Research
Compliance	Research / faculty effort certification, regulatory requirements, ethical conduct, sponsor imposed requirements, etc.	Associate Vice Provost for Research Compliance & Operations Associate Vice President, Financial Management Associate Vice President/ Chief Compliance Officer, UW Medicine Director, Academic Human Resources	VP Research Senior Vice President, Finance and Facilities CEO UW Medicine VP Academic Personnel
Impacts / Benefits / Partnerships	Outcomes and value generated from research activities including, intellectual property, patents, technology transfer / licensing, global partnerships, interdisciplinary partnerships, inter-institutional partnerships, community service, clinical studies, publications, citation frequency, recognitions and honors, consortiums, recognized centers and institutes, etc.	Director of Finance and Business Operations, UW TechTransfer Associate Vice Provost for Research Compliance & Operations Director of Regulatory Guidance, SOM Associate Vice Provost for Research	VP UW Technology Transfer Director of Finance and Business Operations, UW TechTransfer VP Research Vice Dean, Research and Graduate Education, School of Medicine

TABLE 1 Sample Data Custodian and Trustee List

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Research Expertise / Staffing	Areas of established and developing knowledge, funding qualifications, donor marketing, program assignment and collaboration, retention and recruiting. External Affairs	Associate VP, Advancement Services, Development & Alumni Relations	Vice President for Development & Alumni Relations
Equipment & Instrumentation	Inventory management, title / ownership, facility sharing, transfers, repurposed fabrication, useful life expectancy, etc.	Associate Controller, Financial Management Director, HS Academic Services & Facilities Manager of Program Operations, Financial Accounting / Equipment Inventory	AVP Controller
Space & Facilities	Research and laboratory space availability, types, (furnished, not furnished) occupancy rates, redundant (shared) facilities, etc.	Director, Capital & Space Planning Office	VP Planning & Budgeting

STEP 3: SET UP THE GOVERNMENT

The preliminary assignments and anticipated responsibilities were not announced to the majority of these individuals, however, some were enlisted to help “role play” their new responsibilities. This allowed us to fine tune the policies and procedures that the DMC was creating. This is an important part of starting up a new Government. It is important to develop a strong relationship with “acting” Data Trustees and Data Custodians who are comfortable with an evolving constitution and with changing processes and procedures. These actors help to refine the policies and procedures and create training materials in advance of scaling out to all Data Custodians and Trustees. The roles and responsibilities that Data Trustees and Data Custodians are expected to perform are highlighted in Figure 2. This figure represents a typical strategic, tactical, and operational

division. Notice that the Data Custodians are the bridge between strategic Data Trustees and the various operational players managing and using data in systems.

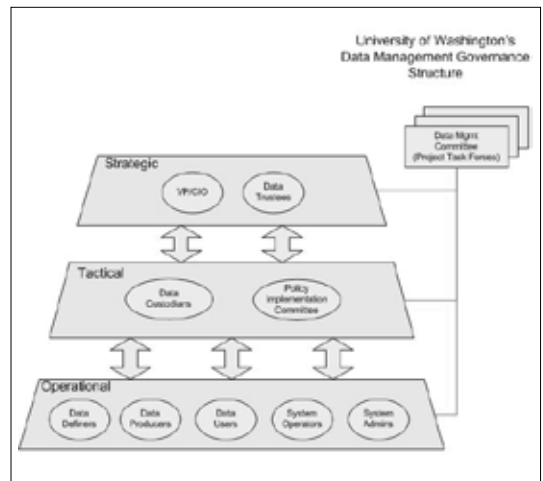


Figure 2: Data Management Governance Structure

Most Data Custodians have a direct reporting relationship to the Data Trustees, however, this is not an absolute requirement; some Data Custodians in one business process area may be Data Trustees in another. Overall, there are approximately 25 Data Trustees and 50 Data Custodians.

Create an Executive Branch

Data Trustees are executive officers of the University who are responsible for business rules around data management. They are also responsible for appointing the judiciary Data Custodians.

DATA TRUSTEES

Data Trustees are institutional officers, (Vice Presidents, Vice Provosts, Deans, Chancellors, etc.) appointed by the President or Provost, who have authority over policies and procedures regarding *business definitions* of data, and the *access* and *usage* of that data, within their delegations of authority. Each Data Trustee appoints Data Custodians for their specific Subject Area Domains. The CIO is a part of the executive branch of government and has additional responsibilities related to the technologies that manage data.

Vice Provost for Information Management / CIO

The Vice Provost of Information Management/ Chief Information Officer (CIO) is appointed by the Provost, and is a Data Trustee over certain centralized Institutional Data Warehouse Repositories, like the Enterprise Data Warehouse. The CIO is responsible for setting and enforcing standards and guidelines for data management technologies and systems related to appropriate: computing infrastructures, data processing performance, data delivery and integration, data architectures and structures, data quality, data domain definitions, metadata

repositories, naming conventions and syntax, and access control mechanisms. Together the Data Trustees and the CIO make up the executive branch of Data Management governance, providing strategic leadership and direction and setting overall policy and priorities.

Create a Judicial Branch

Data Custodians are the subject matter experts that are most knowledgeable about the Institutional Data and the business processes. They have several responsibilities outlined in the Policy document.

DATA CUSTODIANS

Data Custodians are individuals assigned by and accountable to the Data Trustees. They help define, implement, and enforce data management policies and procedures within their specific Subject Area and Business Domains, as defined in the UW Data Map. For a list of domains and currently assigned Data Custodians, I refer to the UW Data Management Committee Website. In conjunction with the Data Management Committee guidelines and procedures and the prescribed technology and systems standards and guidelines established by the CIO, Data Custodians are essential in performing several key data management functions including:

- Identifying Systems of Record containing Institutional Data.
- Categorizing Institutional Data within Systems of Record according to security and privacy guidelines.
- Defining access, quality, and usage guidelines for Institutional Data.
- Reviewing and approving requests for access to Institutional Data.
- Documenting and maintaining Institutional Metadata.
- Educating and sharing best practices with other data management personnel.

Data Custodians shall be knowledgeable and work in accordance with numerous data management policies and procedures across the University, including:

- Standards, policies and procedures established by the Privacy Assurance and System Security (PASS) Council of the University (2).
- Record retention and public disclosure rules and regulations as outlined on the Records Management Website (3).
- Public records and Open Meeting standards, policies and procedures defined by the Office of External Affairs (4).
- Electronic Discovery and Disclosure Guidelines as outlined on the UW Attorney General's Website (5).

Data Custodians have a broad set of responsibilities, and are the judiciary that help to interpret and enforce existing policies and procedures. Since many Data Custodians are also DMC members, they are also active in helping to formulate new policies.

The Policy Implementation Committee (PIC) is a special tactical group defined to assist the Judicial and Legislative Branches. They serve as a steering committee of the DMC, helping to document and coordinate policies and procedures. They triage requests and issues that are sent to the DMC and get the appropriate Data Custodians involved when necessary. The committee is made up of 5 DMC members and is supported by an administrative assistant who helps document the issues.

Checklists and guidelines are being created by the DMC to help explain the workflow of resolving different types of issues. For example, a request for access to sensitive data in the Enterprise Data Warehouse often involves a number of steps:

- A PIC member is assigned to the request. The member contacts the requestor and clari-

fies what the business purpose is for using the data.

- The PIC member sends the request to the appropriate Data Custodian(s) for concurrence.
- If concurrence is granted, the PIC member notifies the appropriate system administrators to set up the requestor in the authorization system.
- The PIC member then sends the requestor an "Access and Use Agreement" for official signature.
- Once the system administrator has set up access, the PIC member sends the requestor a message informing them that access has been granted.

In the preceding scenario, the PIC members help implement requests but the Data Custodians are the decision makers.

The DMC assists the Citizens of the democracy by providing them a forum to bring forth issues and lobby for reform. The DMC has commissioned, and works in conjunction with, various task forces (Cabinet Posts) which work on difficult issues. These task forces make recommendations for resolving issues which result in "Guidance Documents" that are officially endorsed by the DMC and Data Trustees. These Guidance Documents serve as "amendments" to the overall "constitution" by supplementing the Policy and Procedure Documents.

Guidance documents contain summaries of issues or concerns, who is affected by the issue, rules and decisions made on the issue, and official concurrence signatures of appropriate Data Trustees (Executive Officers) and/or Data Custodians (Judicial Officer). As the number of guidance documents grows, they are building a body of "case law" and "official registers" of knowledge, helping all citizens of the democracy understand the rule of law. Some interesting examples of these guidance documents are

documented in the next section.

STEP 4: ENGAGE THE CITIZENRY

One of the remarkable things about a democracy is the engagement of its citizens in the pursuit of worthy causes. The activism around Data Management at UW is no exception. The DMC provides a forum for any citizen of UW to bring forward data management challenges and recommended solutions.

Encourage Popular Movements

One example of a citizen activated movement involves access to financial data. Past guidelines for financial management reporting regulated access to budget and expense data for only a person's specific department or unit. With the evolving interdisciplinary nature of programs being developed across units, this guideline was restricting administrators from accessing the data needed to plan and monitor appropriately.

However, opening up access to financial data for cross unit analysis also meant opening up access to budgets associated with discretionary and strategic purposes. Many stakeholders worried that certain researchers, faculty, and staff, would engage in political arguments over the source and amount of funding they received. However, a group of people with a vested interest in changing the guideline started an "outreach" program. They met with many stakeholders to discuss their concerns and explain their needs. They created a presentation and met with many Deans and Administrators, gathering feedback on the pros and cons of the recommended change in the guideline. Based on the feedback received, they developed a new guideline explaining the risks and benefits, and submitted it to the appropriate Data Trustees for official signature. The new guideline was accepted, and was officially posted on the DMC website, recording the decision to provide guidance for all in the future.

This same process—that of citizens performing their own outreach program—has occurred several times now. Each time the process is similar. The citizens petition the DMC to sanction an outreach program; they develop content and presentations under DMC review; they conduct outreach meetings and gather feedback; they report back to the DMC on a regular basis as they conduct the research; and they then draft a new "guidance document". Once the DMC accepts the new guideline, it is presented to the appropriate Data Trustees. If accepted, it is signed, scanned, and posted on the DMC website as an official guideline.

Form Interest Groups

Another important way to engage citizens in improving our democracy is through establishing "interest group" task forces. The DMC usually has several active task forces working at the same time. These task forces work to define tools (checklists, glossaries, instructions, etc.) that improve data management procedures. They also conduct research and analysis and make recommendations on improving data management practices. For example, a task force was created to improve procedures in defining access and roles to sensitive data. This special interest task force contains representatives from units with particular interests in access controls (Information Security, Human Resources, Identity Management, etc.). Depending on the agenda of the task force meetings, other interested parties are invited to attend and contribute.

One significant constitutional amendment that this task force has produced is the "Roles and Access Matrix". The amendment provides definitions and instructions for end users and Data Custodians in handling requests for access to sensitive data. The task force created the matrix to define roles and privilege levels according to the subject area domains of the UW Data Map. The matrix is posted on the DMC

website, providing instruction to users that request access. The users can review the matrix, identify the “role” they fall within, and submit a request to the DMC support email address for access.

To date, this request process is for access to data in the Enterprise Data Warehouse. The access control scheme represented in this matrix is fine grained—the roles that have been established define access privileges to both columns (data fields) and rows (data records) across all the major subject area data domains. This fine grained control system is actively being explored for the possibility of scaling out to other data sources other than the EDW. A current version of the Roles and Access Matrix can be found at <https://www.washington.edu/provost/oim/dmc/access.html>. All active task forces report on their progress on a regular basis at the DMC meetings.

Allow for “State” Governments

Some task forces have resulted in convening special governance and decision making bodies. The Enterprise Reporting task force is a good example of this. It was initially created to answer the “Top 5 Questions” to which Deans and Chancellors wanted answers. Questions like: “What is the student headcount for each of my programs?” seem straightforward, but can be very complex to answer. The task force found out that this one seemingly straightforward question quickly led to many other questions, such as:

- Should students on leave or involved in foreign study be included?
- For interdisciplinary programs should the student be counted once in each program?
- Should students that have not declared a major be included?
- Is it important to include non-matriculated students?

To understand the root issues that make it difficult to answer the seemingly simple questions, the task force formed a special Deans and Chancellors Advisory group that included a handful of Deans and Chancellors to advise the task force. Their input and direction led to the identification of the major questions and issues. While they acknowledged that some schools, colleges, and campuses have specific requirements to answer the question differently, the task force agreed that each should follow the same rules and definitions that answer the question consistently whenever possible. A process to come to concurrence on the institutional definitions of the data elements in question was setup and the creation of new enterprise reports that use those established definitions were built. The resulting “institutional definitions” are posted in the DMC website for all analysts and report writers to use when building similar reports. This has led to an increase in the consistency and credibility of certain reports that are produced which in the past often reported seemingly contradictory results.

STEP 5: INSTITUTIONALIZE THE NEW FORM OF GOVERNMENT

Turn Policy into Law

The DMC has been operating for nearly two years with working drafts of its policy document and guidelines and acting Data Custodians. The policy essentials, definitions, and procedures have matured and worked well. In order to sustain the momentum into the future, the DMC is seeking to get formal approval of the policy document which, when ratified, gets included into the University’s official Administrative Policy Statements repository. The University Technology Advisory Council (UTAC) is the current governance body that approves technology policy documents. Before submitting to the UTAC for official approval, the DMC performed an education and outreach program with key

stakeholders. The first step in that outreach was presentation of the policy document to the Privacy Assurance and Systems Security Council (PASS). The PASS council has representation from a broad constituency across the university, including the Chief Information Security Officer, the Attorney General's Office, the Risk Management Office, the Medical Center CIO and Privacy Officer, Network Systems, Identity and Access Management, and the Office of Information Management. The PASS council provided strong endorsement in November 2008.

The DMC also created an executive summary presentation that explained the importance of the Data Management Policy. Various DMC members are doing outreach work with Data Custodians and Data Trustees, to educate them, and to get their endorsement of the policy. This is an important process that helps refine the UW Data Map and the list of Data Custodians and Trustees. It builds awareness and helps create baseline knowledge for all regarding the constitution. Once the Data Trustee and Data Custodian outreach is finished, the DMC will then submit the Policy document to the UTAC for final endorsement. After the UTAC endorses the Data Management Policy, the DMC will be legitimized as an important governance body of the university.

Turn Law into Practice

In addition to formal approval of the policy document, the DMC is working to create a formal online educational program for Data Custodians. This training will be used to explain the fundamentals of the policy constitution, as well as the parliamentary procedures outlined by the DMC. It will be used to orient all citizens involved with data management best practices, but will primarily be targeted at Data Custodians, who have a large responsibility.

Let Democracy Flourish

Regular communications about the functions of the DMC are extremely important. Word is starting to spread about the DMC's work, and individuals actively requesting an audience. The DMC's website contains important information—from meeting minutes and status on special task force progress, to special updates and highlight reports that must be prepared and delivered to executive audiences like Deans and Administrators on a regular basis.

Just like in a national democracy, it is important to rotate the elected officials who serve. Membership in the DMC and task forces is evaluated and changed on a regular basis. Careful consideration is given to creating a membership that is representative of both administrative and academic units. There is no official election and voting process; rather, current members discuss, suggest changes, and recruit new members.

Summary and Conclusion

One of the greatest benefits of the DMC and the data governance policies and procedures being put in place is that general "citizens" now have an official place to go to present their unique data management challenges and to ask for help. By having a policy document that serves as a constitution, the rule of law for data management is clearly defined. In the past, people raised issues about data management, but since there was no common ground or baseline of agreed upon rules, the issues were never resolved and practices were inconsistent. Disagreements tended to bounce around from group to group with nobody feeling empowered to act or make a decision. Now that accountabilitys are clear and the procedures well defined, there is increased efficiency and consistency in dealing with the many challenges.

As with any great democracy, the problems that arise in the future will require that previous policies be reformed. Having a checks and balances approach to separating judicial, legislative, and executive powers is a wise architecture that the founders of the United States put in place. The data management governance structures put into place at UW followed a similar model, and are proving prudent in maintaining the appropriate balance of power while allowing democracy to flourish.

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Introduction

INFORMATION? MANAGE!

Information is the term we use to stand for all forms of preserved communication that organizations care to produce, store and distribute. If we communicate it and record it, it is information. So, for us, information is anything from sales figures in a database to a video on philosophy viewed on a mobile phone.

We define information management as the organized collection, storage and use of information for the benefit of an enterprise.

Our definitions are intentionally wide enough to cover content, document, asset, data, records and all other ‘information managements’ that organizations do. We believe that while each of these “sub-disciplines” has its own tools and types of information, there is much more that unites them than divides them. Our definitions are intentionally quite practical. For us, information management simply means moving pieces of recorded communication from creation to consumption to retirement. Our definitions are crafted to carve out a niche for the information manager. Information managers make sure that recorded communication can be amassed and distributed in a way that benefits their organization. Finally our definitions are crafted to be a simple guiding principle. Any person working in any information project can use this definition to remain focused on the ultimate aim of their particular kind of work.

INFORMATION MANAGEMENT? TIMAF!

The field of information management is currently fractured and incoherent. Each sub discipline (content, document, asset, data, records management to name just a few) has its own practitioners, applications and professional communities. We believe that behind the seeming differences between these ‘managements’ there is a deeper unity that will eventually define a strong and clear foundation for all of them.

We do not believe that all managements will or should merge, but rather that just as business underlies a variety of business practices including accounting and finance, there is a common foundation for the various forms of information management.

The Information Management Foundation (TIMAF) tries to provide this foundation by publishing these information management best practices. In addition, TIMAF develops and maintains an information management framework that brings the commonalities between sub disciplines to light and helps to organize the best practices that we publish.

BEST START? BEST PRACTICE!

Just as business is practiced within a more specific context, information management is also practiced in context. Thus, we believe that the best way to illustrate the concepts and practices of information management is within the context of one or more sub disciplines. So, this best practices book tries to show global principles of information management in the context of projects in one or more of the sub disciplines.

This is the first volume of 'Information Management Best Practices.' In future publications we will provide an ongoing compilation of high quality best practice guidance, written for and by experts in the Information Management field from around the world. These best practices are designed to help professionals overcome their information management challenges. They bring complex models down to earth, with practical guidance on tough problems.

In this volume, practitioners describe nineteen projects that you can learn from, In return, we ask that you let us learn from you! Please let us know what your experiences are with these or other projects at **www.timaf.org**.

Colophon

Title

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BEST PRACTICES

'TIMAF Information Management Best Practices – Volume 1' is a compilation of high quality best practice guidance, written for and by information management experts from around the world. It is packed full of useful knowledge, views, and guidelines that will help professionals overcome the information management challenges of their organizations. It brings complex models down to earth, with practical, step-by-step guidance on the most important problems.

6 reasons why you should read this book:

- ▶ Covers the whole spectrum of information management including data management, business intelligence, knowledge management, records management, document management, asset management, and both web and enterprise content management.
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- ▶ Outlines the skills you need to accomplish each best practice.
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