

# White Paper

## Information Management – A taxonomy to mature your organization

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**So your data is inaccurate, incomplete and inconsistent, and your teams are wasting precious time manipulating data or your customer service is constantly being compromised. These business data problems are experienced in every business today and your ability to bring these issues to life and convince your stakeholders of the cost and magnitude of the problems will dictate how successful you are in achieving your business objectives.**

Worse still, if you don't have visibility of how poor data is compromising your business then first steps involve establishing some level of visibility for your senior management. But where to start?

There are a couple of different approaches you can take to address the business problems created by poor data. Firstly, you can take a bottom up approach to the problem and be quite specific about the business issues and interrogate specific data sets and get a sense of the various cost impacts and level of data quality that is hindering your business. This certainly has a direct cost that can be understood by stakeholders based on man hours spent doing the unproductive tasks caused by poor data.

Alternatively, you can leverage one of the many different methodologies available to drive a top down development of your data management capability to better manage your data assets. A number of different methodologies and approaches exist to support your Data Management planning and maturity such as Mike2, ITIL, TOGAF, COBIT.

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However there is one methodology that I believe provides a detailed development path and enables a holistic enterprise wide approach to address your business pain caused by poor data and that is the DMBOK (Data Management Body of Knowledge) methodology provided by DAMA (Data Management Association).

The methodology outlines a wide range of information management best practice approaches to building visibility, understanding, and management of your data assets. I will use “Information” and “Data” Management interchangeably throughout this paper as they both relate to the lifecycle of turning data into information, insight and knowledge. The following model provides a high level overview of the Data Management functions described in DMBOK:



Source: DAMA – Data Management Body of Knowledge, V2.0

In this white paper, I will describe these DMBOK functions, their use, and provide some experience and insights on how to develop your Data Strategy and prioritize your development path to improve your organizations awareness and approach to data maturity.

## DMBOK Functions

Below are some simple definitions of the DMBOK functions:

- **Data Governance** – The exercise of authority and control over management (Planning, Monitoring and Enforcement) of the data assets;

- **Data Architecture Management** – Defining the data needs of the organization and the master blueprints to meet those needs. This includes development and maintenance of the enterprise data architecture within the context of the broader enterprise architecture. This involves defining the Data Principles to be applied and their relationships with your Application and Business Architecture;
- **Data Development** – Designing, implementing and maintaining solutions that meet the data needs of the enterprise. These data focused activities include development of the Conceptual, Logical and Physical data models that describes your data, data requirements analysis and design, implementation and maintenance of the data related solution components;
- **Data Operations Management** – Planning, control and support for the structured data assets across the data lifecycle from creation and acquisition to merge, archival and purge;
- **Data Security Management** – Planning, development and maintenance of the security policies and procedures to properly authenticate, authorization, access and auditing of data and information;
- **Reference and Master Data Management** – Planning, implementation and control activities to ensure consistency for a golden set of conceptual data values. Reference data is that data held in tables for reference purposes i.e. classifications and master data is that data to be mastered from a single point of truth;
- **Data Warehousing and Business Intelligence Management** – Planning, implementation and control processes to provide decision support data and support for knowledge workers involved in reporting, query and analysis;
- **Document & Content Management** – Planning, implementation and control activities to store, protect, and access content held in electronic files and physical records i.e. emails, documents, text, graphics, images, audio and video;
- **Meta-Data Management** – Planning, implementation and control activities to enable easy access to high quality integrated meta-data i.e. data about the data and primarily supports search functions;
- **Data Quality Management** - Planning, implementation and control activities that apply quality management techniques to measure, assess, improve and ensure the fitness of data for use;

**Source: DAMA – Data Management Body of Knowledge, V2.0**

Understanding your current state as it relates to each of these Data Functions is a critical first step to establishing your Data Management priorities and approach. This will support a review of your business and developing a gap analysis which can prioritise your next steps.

## Where to start

A lot depends on your current maturity, skill sets, executive appetite and range of business problems being experienced by poor data. Some initial analysis and quantification of the pain being experienced by your users will give you a good sense of what Data Functions should be addressed first.

A Data Strategy maps out a high-level plan for addressing your key data issues such as improving data visibility, quality, security and access. The Data Strategy should align with your company business goals and outcomes which give it greater weight, traceability and visibility. For example, alignment to business outcomes such as operational efficiency or customer services outcomes which are being held back by poor data or knowledge of your customer being undermined due to multiple points of truth.

A Data Strategy may also incorporate a plan to revise and enhance the Data Management Functions in line with changing business objectives. In a top down scenario, a good place to start would be some form of Conceptual Data Model of what data is important to your organization. Data domains such as Parties, Location, Events, Finance, Assets etc. all provide good places to start and usually support most Conceptual Data Models.

If you have a high level Conceptual Data Model you can start to ask questions such as

- Where is the data?
- What is the priority data?
- How many systems store it?
- How accurate is it?
- Who needs it and can they access it?
- Will they support or sponsor a data project?

This will build a body of information about the data you hold. Rest assured many organizations have the same data sitting in multiple repositories with many interfaces traversing the data across their environments. Getting to understand the nuances of your data also enables a broader discussion with your stakeholders about the issues they would support and like to address first.

The benefits of the Conceptual Enterprise Data Model include:

- Illustrating the basic structure of the business data to various interested parties (such as business areas, new joiners, consultants, and development teams).
- Identifying the subject areas for the classification of data, process and applications.
- Identifying the major data items of greatest importance to the business.
- The model is described in business terms and is intended to promote communication between business areas and IT.
- Providing an implementation independent view of the enterprise.

A Conceptual Data Model can then be augmented into a Logical Data Model to provide further depth and definition of the important data to your organization. The purpose of developing these models is primarily to develop visibility of your Data DNA and to give you a sense of the scale and pain being experienced. You can also map risks / issues and the number of issues per data domain, giving you a sense of where most of your pain is being experienced.

Often there is very little in the way of formal data governance addressed by organizations. The value of data governance is that it enables a group of committed stakeholders to talk about data, review the data issues and come together in a shared agenda to improve your data assets. Often the lack of data governance allows the proliferation of spread sheets and extensive Excel deployments with many of these becoming core business data stores used to manage key aspects of your operations.

Data is often created “on the fly” to fill gaps tactically and there is no potential to re-use the data in any other area. Without a formal enterprise data architecture across the enterprise there are often a wide range of COTS packages with no consistency across sites and no integration strategy.

Data quality is the most commonly cited issue with enterprise data. In particular, many companies do not have a formal approach to Data Quality Management, have a strong reliance on spread sheets for supporting key operational functions and certainly no approach to continuous data improvement.

This can have a number of impacts including:

- The chart of accounts is “untidy” with a proliferation of sub-ledgers;
- Perceived process deficiencies may well be data deficiencies with acknowledgement that data quality leads to process mistakes.
- The corporate ERP system may have a large number of customizations and the way data is defined can vary based on the system that is being interrogated.

## **Leveraging the Data about your Data**

Developing visibility of your data is not just about models and can reflect other inputs such as a data glossary, data flow diagrams, CRUD matrix, specific logical and physical data models that address a project or program scope. These also help in building the bridge with your Business Processes and Applications Portfolio.

Once you have established some strength and visibility in your knowledge of data you can look at establishing specific programs and projects to address the pain or you can start to influence existing projects of the need to address data in their planning and scoping. Without strong stakeholder support you will find it hard to establish specific budgets focussed on data, however starting with some of your critical projects you can get to the point of having a small part of the budget allocated to a data cleansing or data modelling outcome.

Thus you incrementally get to improve the management of data at your organisation and bring data issues to the forefront of your stakeholders thinking.

## Final Word

Whilst both bottom up and top down approaches have proven successful in starting your data journey, developing visibility of your “Data DNA” is a critical first step to improving data maturity across the enterprise and gaining acceptance from your stakeholders. Some stakeholders relate to the organizational outcomes more so than specific Divisional outcomes so there are genuine arguments for using either approach depending on the traction and culture within your organization.

Notice there is no mention of tools here as the tool is irrelevant in the early stages as you seek to gain stakeholder support and mature your Data Management processes. A tool such as the iServer platform will help you across all architecture domains; however I suggest a start with PowerPoint, Excel and Visio can give you the visibility required in the early development phase.

Making progress on your understanding of the data in your organization is the first step and over time, incrementally enables a body of knowledge to be established and a committed group of stakeholders to be engaged on the journey. A critical mass of committed stakeholders promoting both the pain and the value from addressing your data issues enables the organization to mature its data management, business intelligence, customer insights and therefore fast track cost reduction and revenue generating activities.

In my next white paper I will talk about some of the challenges in getting data initiatives established and with the advent of new technologies and significant increases in computing power, I will outline some approaches to addressing one of the hottest topics now facing many organizations and that is Big Data.

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