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Enterprise Information Model

The Context for Managing Data as an Asset

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Introduction

A lot more companies and executives are recognizing the impact of poor data on their business model and developing responses to understand and manage their data as a corporate asset.

Whilst there is a level of intent, there is yet to be a widespread inclusion of data outcomes in executive performance plans or company strategic objectives.

So the gap still exists between organizational intent and institutionalizing the management of data, however many companies are able to point to some visibility of information or data management initiatives to address the critical data that drives their business.

Companies are turning back 20-30 years of poor data management practices which has created a significant anchor to responding quickly to external opportunities. You've heard of companies who have to spend significant dollars on cleansing, moving, or consolidating data around the organization to achieve a single point of truth. Or how a company's ability to deliver projects on time and budget is hampered by a lack of understanding of the data they need to manage.

One of the early warning signs of the size of the gap is where the company wants to transform its operations through digital initiatives and become more in tune with its customers. Often they find their customer data is in multiple environments; governance is low and staff have not been trained on the need for accurate data entry of customer data. Many digital initiatives and responses are being compromised due to the lack of clearly defined management of data assets, with customer access, service, and functionality held back by multiple sources of customer truth.

A top down approach is therefore critical to move the organizational data inertia and focus on managing your data assets. Creating an Enterprise Information Model (EIM) is a simple method for visualizing and representing the pain that is preventing the company from achieving its objectives and engaging executives in understanding what responses are required.

In this white paper, we will explore the development and use of the EIM to support strategic outcomes and how it can engage stakeholders at all levels. We will use the term 'Information Model' to represent both information and data, and emphasize the need to use the model to generate insight and knowledge.

Developing Your Enterprise Information Model

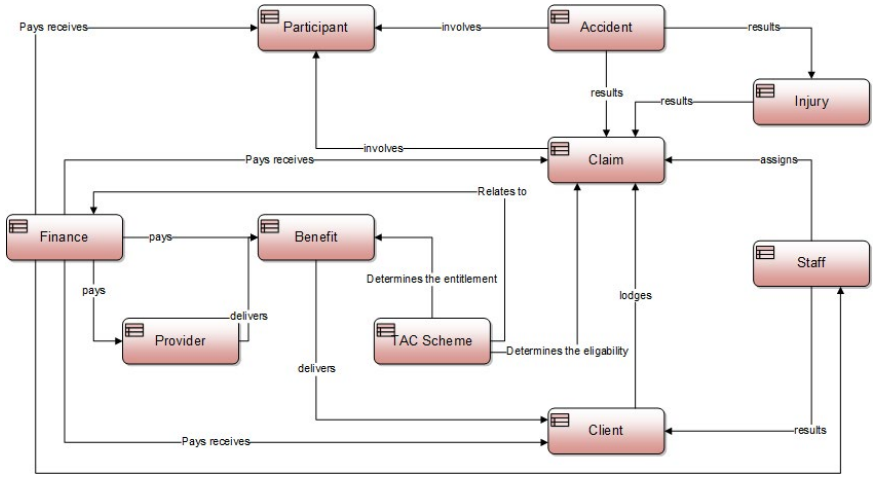
Unless you have visibility of your key data subject areas, the ability to effectively manage your data assets is restricted by a lack of clarity and focus. Discussions often reflect opinions, but are not based on any science. An EIM can provide structure and context to your data management discussions.

The architecture team are critical to engaging stakeholders and building the EIM with a focus on the key 8 – 12 subject areas most critical for the business. Starting at the top with a list of key subject areas enables a simplified view of the data and avoids adding complexity to your initial model. The aim at the EIM level is to simplify your model, not add as many entities or attributes as you can. Once the structure of the level 1 view of the EIM is created you can extrapolate down to more specific levels of detail to support delivery and approach.

Establishing your EIM then enables a range of analysis to be completed looking at variables such as data location, points of truth, data quality, integration requirements, and scoping for projects. Using the EIM to consistently communicate your data story reduces misunderstanding as stakeholders are regularly reminded of the data subject areas critical to the business.

Your data management principles should be developed using your EIM as a guide with the opportunity to embed data principles and the EIM into many of your business processes. With a simplified EIM and set of data management principles you're now in a position to govern the data decisions made across your organization.

Below is an example of an EIM model that reflects an organization's key data subject areas and can remove complexity and provide scope and context:



Embedding Your Enterprise Information Model

In order to mature the management of data in your organization, it is important to embed the EIM into as many of your business processes as possible.

A sample of the key processes that could use your EIM include:

- Architecture Processes
- Business and Technology Strategy and Planning
- Portfolio Management
- Project Delivery
- System Integration
- Data Migration
- Data Management and Governance
- Mergers and Acquisitions
- Business Case development

Each of these business processes requires a view of your data and the EIM enables a simplified representation of your critical data. When your employees are delivering these business processes and are prompted to address your data, they can look at ways to improve the data assets rather than adding complexity or ignoring your data assets completely.

Developing and delivering an effective EIM is critical to capturing the hearts and minds of your employees on the importance of data to the organization. If the architecture function has an EIM already in place then the time from start up to value generation for projects is far quicker. The following is a summary of some of the key architecture services that would benefit from an EIM:

Services

- **Develop and support IT and business strategy**
  Architecture has a critical role in supporting and positioning the IT or business strategy. Using the EIM enables a strategic perspective to be established on your data that will engage executives and provide a consistent perspective on the data issues and challenges to be addressed.

- **Governance**
  Architecture governance is a great opportunity to engage your stakeholders and show how the EIM can influence your projects and business processes. It also enables the principles and investment priorities to be agreed between business and technology teams and encourage discussion and agreement on data management direction.

- **Impact Assessments**
  Impact assessments enable executives to test the water with strategic options and direction and the EIM provides context and scope for understanding the data impact on your organization. Using the data subject areas as reference points can enable these impact assessments to be completed in relatively short periods of time with scope, size, risk, and key inputs identified and costed.

Case study

A good example was the development of an EIM for a large data migration from one company to another in the financial services industry. Neither side of the transition knew what data was held by the other company so we developed two EIMs, one for the source environment and one for the target environment. This enabled communication and engagement between the technical and business stakeholders, and enabled the various data transformation and business rules to be structured using the subject areas of the EIM. It created understanding where none existed before, removed complexity, and supported a smoother engagement of project resources to move significant amounts of data through multiple transition environments across two countries.

Leveraging Your Enterprise Information Model

Your EIM provides context and scope for managing your data assets and enables agility in planning and scoping. It essentially provides you with a script and identifies places for you to look for key issues affecting the business.

A range of data questions and opportunities can be addressed, including:

- **Identify data integrity issues**, stored across multiple applications, resulting in no single source of truth, or the need for planned synchronization processes.
- **Identify opportunities for consolidation**, where the same or similar business functions are duplicated across the data stores.
- **Identify areas of potential architectural weakness**, or non-compliance with endorsed architecture principles – e.g. inappropriate use of technology, restricted data accessibility, or sharing.
- **Identify areas of labor intensity**, which may indicate inefficient use of available technology capabilities.
- **Identify and understand business usage of enterprise information**, to assist in identification of duplicated effort, and provide greater awareness of business impacts in event of change to the underlying data stores.

The EIM can also be leveraged to:

- Assist planning for new projects (or programs) by providing a single view of all applications, resources, interfaces, dependencies etc. that may be impacted.
- Act as a training tool and information source for new resources.
- Provide a basis of understanding of downstream data impacts when systems or processes change.
- Provide an understanding of interdependencies between systems, the interfaces, data flows, and underlying technologies.
- Provide an understanding of the automated flow of information from and to the Group Data Warehouse (GDW) with the business applications, and the direct interactions of those applications with business divisions and external organizations. It also helps to provide some understanding of the workflows involved in supporting the input, maintenance, and reporting of management information.
- Assist in disaster recovery planning.

Communicating and engaging with your employees, and delivering architecture value requires a number of different employee touchpoints and a multi-channel approach. Using an EIM is a cornerstone of your architecture capability and enables you to bring architecture value to your stakeholders' attention, and elicit issues or challenges to be addressed.

Enterprise Information Model Governance

As architects, we are acutely aware of the need to provide a consolidated set of architecture guidance to our stakeholders, as it builds credibility, trust, and acceptance of the partnership role that architecture should and can provide.

The EIM is an important model for engaging the decision-makers who are critical to supporting your architecture goals and outcomes.

Governance outcomes from using the EIM include:

- Define data architecture for business case
- Define logical and physical data architectures for system design
- Communicate the data solution architecture

Another important contributor to your architecture governance outcomes is the clear definition of data management roles and the matching of experienced architects to those roles. It is critical that a consistent data architecture methodology is deployed in your organization to support consistent architecture outcomes, and TOGAF or DMBOK methodologies provide a good back drop to governing your EIM.

A summary of the key data architecture roles and governance activities to be deployed in your organization is as follows:

Architecture Manager / Head of Architecture

- Own EA strategy and provides architecture leadership, including data architecture
- Liaise with IMT Committee regarding strategic direction and priorities

Enterprise Data Architect

- Establish data architecture framework and methods, and own the EIM
- Initiate/influence a program of work
- Assign a data architect
- Identify projects in collaboration with data architects
- Communicate data principals, standards, and architecture vision
- Communicate data outcomes and business value to architecture review board

Data SME

- Data SMEs own the data subject areas and are responsible for engaging all business users and the technology teams for their specific data sets
- It's a critical role for engaging stakeholders and ensuring that project decisions are improving the quality of data rather than adding to its complexity

A Final Say on Managing Your Data Assets

Architecture value comes in many forms, and invariably it is your stakeholders who dictate the success of your architecture objectives. Placing a strong co-ordinated focus on your data through an EIM is critical to reducing complexity, selling the architecture message, and leveraging the value from your architecture capability.

Ensuring that your team of architects are all pulling in the same direction and addressing the data issues and challenges, thus reinforcing use of the EIM, all significantly contribute to architecture success in your organization.

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