Enterprise Information Management: Definition, Scope, and History

Enterprise information management (EIM) is a field of interest specific to the business intelligence and enterprise data warehousing area. It is a field that specializes in finding the optimum use of information assets of an enterprise (both structured and unstructured) to support the decision-making processes as well as managing the performance of an enterprise.

In this chapter, I cover the definition and scope of EIM, including those elements that go into defining an EIM strategy, such as business intelligence strategy, information governance strategy, and others. Also included is a short history of EIM to provide an understanding of how the discipline has evolved with the changing times.

**Note** Enterprise information management is an evolving discipline due to the change of businesses in a digital ecosystem. This calls for new processes and technologies to process the large and diverse volumes of data generated by business in the digital age.

### Definition of EIM

A formal definition of EIM is the **set of business processes, disciplines, and practices used to manage the information created through an organization’s execution of business processes managed by applications and treating this information as an enterprise asset**. Information is truly an enterprise asset that helps organizations execute their business strategy and analyze performance through a pair of leading and lagging indicators. Gartner defined *Enterprise information management* as “an integrative discipline for structuring, describing and governing information assets across organizational and technological boundaries to improve efficiency, promote transparency and enable business insight.”

Enterprises today deal with complex business environments in which information demands are given in real time, are complex, and are often the only means to differentiate between competitors. Given this background and the global nature of enterprises the need for effective management of information is crucial in managing enterprises. EIM has evolved as a specialized discipline in the business intelligence (BI) and enterprise data warehousing (EDW) field to address the complex needs of information processing and delivery. EIM deals with both structured and unstructured data. Global enterprises deal with both structured and unstructured data.
data (e.g., sales data, customer data) as well as unstructured data (e.g., customer satisfaction forms, e-mails, documents, social network sentiments). With the deluge of information that enterprises face given their global operations and complex business models, it is not surprising that making sense of the large amount of data is of paramount importance. More and more, enterprises are investing in the management of information assets to make sense of the data and derive actionable intelligence from the data compiled from business operations.

EIM’s key driver is to support the business strategy of the enterprise and to support its business objectives such as profit, revenue, cost optimization, and so forth. At the core of this support is an EIM strategy that details how that data should be integrated, governed, and managed across the information lifecycle of the enterprise. One of the key barriers to EIM is the lack of consistent data definitions and the lack of consistent business rules and jargons that are used across different functional and business units.

**EIM’s Scope**

It is important to understand what goes into EIM and the governing principles that make EIM a specialized branch of data management. Although there are numerous definitions that define the perspectives of EIM, it is important to understand the scope boundaries of EIM as a subject of study and practice. EIM can be defined as management of enterprise information assets both structured and unstructured that provide actionable insights into the operations and performance management of an Enterprise. It also includes the information exchange that happens in a world of collaborative commerce in which enterprise often exchanges crucial BI with partners in the supply chain as well as trading partners and suppliers. There are business models and information exchange standards that define the nature of information exchanged between parties in a collaborative model. It is important to tap into these information exchanges as they provide crucial insights into the operational effectiveness of the business relationships and the success of shared business goals. Hence the scope of EIM is not only limited to the business processes within an enterprise but also business processes related to collaboration and supply chains. This implies that enterprise information can be both internal and external. In addition to such information sources comes the frequent need for market intelligence information (bought from external agencies such as IMS, AC Nielsen, etc.). Hence the need to process many different types of information and their semantic context becomes relevant. Another aspect of EIM is to manage the lifecycle of information from creation to archival. Managing the lifecycle of information implies understanding the parties that create and consume the information, as well as the security needs that surround the information exchange and consumption. Chapter 2 delves in detail the processes of the lifecycle and the associated information management practices.

Having provided a brief background of EIM in the modern business environs, I now move on to a more formal definition of the scope boundaries of EIM. To define the scope of EIM it is important to first study the objectives of EIM. The key objective of EIM is to define an information management strategy that looks at the information needs of an enterprise and enables decision making based on integrated enterprise information (both structured and unstructured), which helps in the execution of business vision and strategy. The four key dimensions of EIM for an enterprise are people, process, technology, and infrastructure. To implement an EIM strategy an enterprise needs people in key roles; data management processes that enforce key principles; technologies that support extraction, transformation, cleansing, and storage of data; and a supporting infrastructure that would support the technologies involved in implementing the EIM. The pillars of an EIM strategy, which also define its scope boundaries, would include the following:

- Business intelligence strategy
- Data integration strategy
- Master data management strategy
- Information governance strategy
- Information quality strategy
• **Data architecture strategy**
• **Enterprise content management strategy**
• **Information security strategy**

I now discuss each of the pillars of an EIM strategy one by one.

**Business Intelligence Strategy**

BI deals with the information dissemination of enterprise data to business users and senior management that empowers them to make strategic and operational decisions. A BI strategy deals with understanding the enterprise’s business objectives and how the existing information landscape caters to the existing business information needs. The “to be” state of an information landscape is often derived from the business objectives moving forward and with help in the assessment of the gaps in the information delivery and dissemination landscape. The BI initiatives are assessed based on the business value they provide to the enterprise and business priorities given to these initiatives. The end result of a BI strategy is a set of BI initiatives based on the current gaps in the information landscape and the roadmap that describes the initiatives which would take the enterprise from the current state to the “to be” state.

**Data Integration Strategy**

Data integration deals with the integration of enterprise data across applications to build a single consolidated view of enterprise business performance. Data integration strategy deals with the optimal way in which enterprises can build the single consolidated view of business operations and performance. Data integration deals with structured data. More and more enterprises need to integrate unstructured data such as documents, e-mails, and chat logs, which are usually integrated through enterprise content management (ECM) tools. Data integration strategy looks at the best possible integration architecture and the use of re-useable integration components while integrating new sources of data. The integration architecture looks at integration options with source system applications and the most optimal way to pull/push the information into the EDW and downstream data marts. Change-data-capture mechanisms are often used to ensure that only the incremental changes are picked up from the source applications. The objective of a data integration strategy is to ensure that the data integration architecture is optimal in terms of performance and scalability and can meet the enterprise batch window defined for processing data before information delivery processes can kick off (i.e., report schedules can be executed for report delivery to business users).

**Master Data Management Strategy**

Master data, as the name implies, deals with the key business entities such as product, customer, service, employee, and supplier. Master data management (MDM) strategy helps in delineating the source systems of master data creation and systems that would update/delete and consume master data. The MDM strategy deals with defining an MDM architecture that could be operational/analytical or hybrid depending on the business objectives the strategy would need to address. The MDM strategy also deals with building a business case for MDM that would highlight the tangible business benefits derived. This is an often overlooked opportunity for building a stronger case for MDM implementation. With the rise of global supply chains and more collaboration between retailers and manufacturers, the need for accurate master data is of paramount importance. For enterprises with global supply chains and a need for global data synchronization (GDSN), MDM is a must to have. MDM strategy also defines the MDM data hub and data synchronization needs for the consuming applications based on business needs.
Information Governance Strategy

Another key strategy that deals with the administration of information usage and governance is the information governance strategy (formerly known as data governance). Information governance deals with the crucial aspect of enterprise information usage, consumption, and governance processes and policies concerning this information. With an increasing realization of how information assets are key to the success of an enterprise comes the need for information governance. Information governance strategy deals with classifying enterprise information assets based on usage patterns and business criticality and defining governance structure and policies around the usage and consumption of the information assets. Information governance also brings into focus the quality of the information as the usage and decision making is often impacted with the quality of the rendered information. Hence two key offshoots of information governance strategy are information quality and information security. Depending on the scope of the information assets these can be spun off into separate strategy engagements with the enterprise guidelines of information usage and quality coming from the information governance strategy. Information governance plays a key part in ensuring crucial enterprise data, such as information about customers, product designs, are protected from both internal and external threats. Information governance strategy also helps in realizing the maximum value of enterprise data by opportunities such as effective customer data management to leverage opportunities to up sell and cross sell.

Information Quality Strategy

Information quality strategy can be seen as an offshoot to the information governance strategy. In some cases, information quality strategy can be seen as an independent strategy that ensures enterprise data assets are of optimal quality and strategies are in place to monitor information quality from time to time as well as provide remedies as needed. Often information quality initiatives emerge as part of MDM assessments. Enterprises in need of clean master and reference data need an information quality strategy and processes in place to ensure optimal standards of master and references data entities and attributes. Information quality strategy also must address requirements concerning the quality of data exchanged between enterprises and business partners.

Data Architecture Strategy

Data architecture strategy is one of the key pillars of EIM landscape. Data architecture defines the way data entities are modelled for system of record, data marts, and operational data stores. Data architecture includes the policies and rules concerning how data are sourced, stored, integrated, arranged, and used in decision support systems such as data warehouses, data marts, and operational data stores. Data architecture blueprints also ensure that information management programs align with the key business objectives.

Enterprise Content Management Strategy

Enterprise content management is the strategies, methods, and tools used to capture, manage, store, and deliver documents and content related to organizational processes. For instance, in the insurance industry the policy administration process captures and retains multiple documents about a customer; or in a contracts management process the numerous documents and content, stock performance could be stored. The enterprise content management strategy also controls access to the content to the right people at the right time to empower decision making.
Information Security Strategy

Information security strategy is crucial to protect the enterprise data assets that contain critical information about enterprise business strategies, business performance, and intellectual property. With an increasing number of data breaches occurring, it is of paramount importance for enterprises to have an information security strategy that caters to different types of enterprise data assets. There needs to be a classification of data assets based on sensitivity of the information and information security policies to assess and mitigate the data breach possibilities. Some of the key types of information security threats include identity theft; loss of digital media, such as computer tapes or hard drives; hacking; and so forth.

A Brief History of Enterprise Information Management

EIM started in the early 1990s with the rise of structured data management through data warehouse and data mart implementations. The initial focus was concerned with building decision support systems and the focus of EIM was getting the data in a structured form to the data warehouse or system of record. With the development of relational database management systems such as Oracle, SQL Server, and DB2 it became easy to model, store, and transfer data by writing custom stored procedures. Later with the advent of extract, transform, and load tools this process became automated with limited code being written. With the advent of data quality programs more emphasis was given by enterprises to manage the quality of data sourced from source systems and monitored through data governance and data quality programs. Later the concept of information management changed from structured to include unstructured data with the realization that about 80% of all enterprise data are unstructured. This resulted in more disciplines coming into the purview of EIM including ECM. Now with the advent of big data solutions the boundaries of EIM are being expanded further to include unstructured data management solutions as well as new types of data assets such as machine data (sensor data), weblogs, and customer sentiment analysis from social media becoming data sources for EIM. With the increasing amount of use cases for use of diverse data sets to understand enterprise performance, EIM as a discipline is constantly evolving and calling for new types of technologies and processes to analyze and leverage the voluminous data sets currently generated in the digital ecosystem.
Enterprises generate data from business processes and tasks. The information generated from analyzing the effectiveness of business processes is the key to managing information in an enterprise. The information that becomes generated has a lifecycle of its own. In this chapter I examine the information lifecycle in some detail—the information lifecycle and business value chain of information. Given is an industry example to demonstrate the business value chain of information.

Note Business value chain of information varies widely with industry and hence enterprise information lifecycle management strategies become industry specific. To illustrate, in the insurance industry claims to premium ratio is considered a health indicator for an enterprise. However this is a ratio involving two metrics namely, premium and claims, which in turn can have their own lifecycle and data storage and retention policies. The key is to determine which are the key performance indicators (KPI) of a business and which associated measures or metrics are used in calculating the KPI value. For each of the associated measures, the data lifecycle and retention policies have to consider the business value of the metric. Here business value implies how the metric or measure is used by the business to measure the performance of business processes or enterprise performance.

In any enterprise there are key business processes, such as customer relationship management, supply chain management, knowledge management, operations management, and so forth, which get their information needs from information processing activities such as information integration and storage, transformation, and dissemination. The information process also feeds management activities such as planning, controlling, modelling, and decision making. These in turn give a strategic view of the enterprise market position and its profitability. The metrics that help measure the outcomes and the alignment to business strategy are of higher business value and therefore are considered as moving up the business value chain.
Understanding the Stages of the Life Cycle of Enterprise Information Assets from Creation to Archival

Before embarking on a formal definition of enterprise information lifecycle management (EILM), it is important and noteworthy to understand the lifecycle of enterprise information assets.

Data are created as a part of business processes being executed within and outside an enterprise. The key stages in the lifecycle of information include the steps shown in Figure 2-1. To illustrate with an example, a retail bank has embarked on a customer loyalty program and needs to analyze customer interactions and transactions over a period of the last three years. This means that the transaction data once generated from one of the banking channels needs to be stored in the system of record (SoR) for three years before it can be considered obsolete and marked for archival or destruction. If we look at tax data for individuals and corporations, the government would like to retain this information for at least 20 years and possibly longer. Essentially the nature of the industry, that is, retail banking or government tax departments, defines the retention and archival policies around which data are stored.

![Information Lifecycle Diagram](image)

**Figure 2-1. Information Lifecycle**
The key steps or phases in the information lifecycle are as follows:

- Creation/receipt
- Distribution
- Consumption
- Disposition/archival
- Destruction/retire

**Creation/Receipt**

Data are created at their point of origin in the business process creating the given piece of information. For instance, when a new customer is acquired, a new customer identifier is assigned and relevant customer attributes are captured. As the customer makes transactions over time, more information is collected and continued right through the lifecycle of the customer. In some cases enterprises depend on external data to augment existing customer data, for example, the DUNS Number for customer matching and demographic information. This is an instance where the enterprise is not creating the data but receiving the data from external data providers. In certain businesses, such as banking and insurance, customer leads also are procured from external customer databases that are based on certain behavioral attributes which are considered suitable for targeting potential customers.

**Distribution**

Once the data are created, they are distributed to the relevant consumer applications that leverage the data in running core business processes. Let us use this example, once the customer lead is created, the sales department is typically provided the means to create potential new customers by targeting them with specific pitches relevant to their demographic profile and buying patterns. Even for manufacturing companies, once a new product is created the master data are distributed to different departments that need the information. There are multiple ways to distribute the data where the concepts of data integration come into play and will be discussed in Chapter 5.

**Consumption**

As discussed in the previous step the data are distributed to different consumers, which could be departments, business processes that need data inputs to drive process compliance, as well as completion of transactions. There are principally two types of consumption patterns: 1) end consumers of the data in which the usage pattern is primarily reporting and analyzing (e.g., sales department reporting on leads to customer conversion based on customer data consumed) and 2) business functions and departments consuming data as part of their business process and transaction needs (e.g., actuarial departments needing customer attributes concerning the lifestyle of customers and health parameters while analyzing the risk of a customer profile to issue a life or health insurance policy). Here the data are used for making a decision — whether to issue an insurance policy or not.
Disposition/Archival

The data created and consumed has its own lifecycle that is a key function of the business utility of the data. Each enterprise needs to define the useful period for which a data element needs to be retained in the system of record or other data repositories such as operational data store or data marts. The data lifecycle can be visualized as follows: Data created are treated as active for a period defined by the business where data are either consumed for reporting or analyzing or are used by business processes to complete transactions. After that the data go into a semi-active stage where there are no defined use case for consuming the data element. However the data are still not disposed of as there may be potential use cases in the future, for example, historical analysis of customer loyalty programs or customer behavior patterns. At some point in time, the business would find no case for frequent use of the data and the data element could be marked for archival or disposition. In this step the data elements marked for archival are moved from the system of record or operational data stores to an offline storage mode such as cloud storage in case of hybrid clouds, or optical disk. The focus moving the data to a cheaper means of storage as there is no further use of the data elements in question.

Destruction/Retire

Business processes have their own lifecycle and tend to change over time as businesses change. Due to new stage development, archived data become outdated and no longer relevant to the current business processes and data consumption needs. Data that have reached the end of their lifecycle and thus classified as inactive; the data elements marked as inactive need to be destroyed/retired.

Enterprise Information Lifecycle Management

The entire lifecycle of data elements is called enterprise information lifecycle management (EILM). EILM is the practice of applying policies based on business classification of data for effectively managing information. The basic tenet concerning EILM is to identify and classify data elements based on the business criticality of the data and the nature of the business. The data management policies concerning creation, distribution, consumption, disposition, and destruction then apply to the classified data elements. The Storage Networking Industry Association defines EILM as policies, processes, practices, and tools used to align the business value of information with the most appropriate and cost effective IT infrastructure from the time of creation to the disposition phase.

Data classification is part of the EILM process used as a tool for classifying data that can be used by enterprises to answer questions such as: Which types of data are available? Are the data protected with the right controls and do the controls meet the compliance needs as mandated by the industry? Data classification provides the following benefits to enterprises:

- Data compliance and risk management
- Optimization of data encryption needs as not all data need not be encrypted
- Better control of disaster recovery and business continuity needs
- Enhanced metadata management as result of classification of data assets
- Appropriate data security controls and access based on the criticality of the data
EILM is fairly new to enterprises and adoption trends are still around 30 to 40%. However with government laws, such as the Health Insurance Portability and Accountability Act (HIPAA) that have varying directives concerning the length of time patient records need to be retained, there now is a pronounced need for organizations to have an EILM strategy as part of their information management strategy. The EILM strategy comprises of the following steps:

- **Data classifications of data assets based on business value**
- **Assess data security needs based on data classifications**
- **Define and implement policies concerning data type and storage mechanisms**

The EILM implementation in any enterprise consists of the following steps (Figure 2-2):

- **Analyze/categorize**—classify data assets based on business value and technical usage patterns (query usage, usage statistics, etc.)
- **Develop strategy**—develop data aging and data retention strategy based on business needs and data classification. Develop data security needs based on data classification.
- **Implement strategy**—implement data aging and data retention strategy as well as data security needs. Schedule monitoring and archiving processes.
- **Monitor**—monitor data archiving and data retention processes.

![EILM road map](image)

**Figure 2-2. EILM road map**

**Understanding the Actors in the Stages of the Enterprise Information Lifecycle**

In this section we look at each of the stages of the enterprise information lifecycle and the associated actors in these stages. This understanding is crucial for enterprises to have authority concerning the usage and classification of data assets as well as agreement between business and IT concerning data retention and archiving principles. Table 2-1 maps the stages of the enterprise information lifecycle to the associated actors. For details concerning the responsibilities associated with the actors see the descriptions after Table 2-1.
Table 2-1. Stakeholder Mapping to Each Stage of Enterprise Information Lifecycle

<table>
<thead>
<tr>
<th>Information Stage</th>
<th>Actors</th>
<th>Constraints</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creation</td>
<td>Business process, business users, data stewards</td>
<td>Only the relevant users need to have access to create the required data assets.</td>
<td>Creation of master data needs to be handled by the business process and user with create rights for the given master data.</td>
</tr>
<tr>
<td>Distribution</td>
<td>Data integration processes, data integration teams, data stewards</td>
<td>The data distribution/synchronizations processes would run on a scheduled or on a demand basis.</td>
<td>The data distribution/synchronization processes would feed the downstream applications/business processes that need the data for reporting and transaction processing needs.</td>
</tr>
<tr>
<td>Consumption</td>
<td>Consuming business processes and business users</td>
<td>The consuming applications/business processes are provided the relevant data sets based on their needs with data security controls in place.</td>
<td>Data would be consumed in with modes as flat files for further processing or as access to data repositories such as system of record (SoR), data marts, and so forth.</td>
</tr>
<tr>
<td>Disposition</td>
<td>Data stewards, infrastructure architect, business users</td>
<td>The data disposition would happen once the data became semi-active (business defined) and the data are marked for moving to offline storage.</td>
<td>The data marked for archival/disposition would be moved to cloud storage/optical disks in consultation with the infrastructure architect.</td>
</tr>
<tr>
<td>Destruction/retire</td>
<td>Data stewards, infrastructure architect, business users</td>
<td>The destruction/retiring will happen once the business in consultation with data stewards agrees that the data can be marked as inactive.</td>
<td>The data marked for destruction would be moved out of optical disks/tape in consultation with the infrastructure team.</td>
</tr>
</tbody>
</table>

Here is the list of actors:

- **Business users**—business users define the business processes that generate the transaction or master data. They also define the key data attributes of a transaction based on the business process. Business users also review and approve the master data created by data stewards. Business users also define when the data are no longer considered active and can be marked for disposition or retiral.

- **Data stewards**—data stewards are data custodians of the enterprise data assets created as part of business process execution. They control access to data assets based on user role and the prevailing data management policies. They also define the data management policies in consultation with the data governance organization in place.

- **Data integration teams**—data integration teams define the data synchronization/data replication jobs that are needed to distribute data needed by consuming business processes and applications. They work closely with data stewards to understand the data consumption needs and the relevant data sets that need to be distributed.
• **Infrastructure architect**—infrastructure architect defines which offline storage media would be used for storing semi-active data. They also work closely with data stewards and business users to identify which data assets need to be moved to offline storage as well as which are to be marked for retirement/destruction.

With a better understanding of each of the stages in the enterprise information lifecycle and the associated actors, in the following, I describe the roles of each of these actors to help you understand their involvement at each phase of the information lifecycle. I also look at the organization model (representative) to support the information lifecycle.

### Information Lifecycle - Actors and Their Roles

Table 2-2 provides a breakdown of the actors that are involved in the information lifecycle and their roles.

**Table 2-2. Actors Involved in the Information Lifecycle and Their Associated Roles**

<table>
<thead>
<tr>
<th>Information Stage</th>
<th>Actors</th>
<th>Roles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creation</td>
<td>Business users and associated business process</td>
<td>Creation—business users related to business processes are closely involved in the creation/approval of master data/reference and transaction data.</td>
</tr>
<tr>
<td>Consumption</td>
<td>Business user and associated business process</td>
<td>Consumption—business users can either consume the transaction and master data through or use the data for further transaction processing or for approval of transactions.</td>
</tr>
<tr>
<td>Disposition</td>
<td>Business user and associated business process</td>
<td>Disposition—business users associated with a business process that either create or consume the data need to provide their approval to data stewards concerning marking the aged data as semi-active where the data can be moved to offline storage media.</td>
</tr>
<tr>
<td>Destruction/retire</td>
<td>Business user and associated business process</td>
<td>Destruction—business users associated with the business process that consumes the semi-active data elements in question need to provide their approvals to data stewards to ensure that the semi-active data can be marked as inactive with no further business use.</td>
</tr>
<tr>
<td>Creation</td>
<td>Data stewards</td>
<td>Creation—data stewards facilitate the creation of master and reference data and obtain the required approvals from business users. While transaction data are created by business processes that manage transactions, data stewards are involved in the validation of transactions with business users.</td>
</tr>
<tr>
<td>Distribution</td>
<td>Data stewards</td>
<td>Distribution—data stewards work closely with data integration teams to design which business processes and users have access to which data.</td>
</tr>
<tr>
<td>Disposition</td>
<td>Data stewards</td>
<td>Disposition—data stewards work closely with business users who either create or consume the active data to determine whether the data can be marked as semi-active based on aging and business needs.</td>
</tr>
<tr>
<td>Destruction/retire</td>
<td>Data stewards</td>
<td>Destruction—data stewards work closely with business users who consumed the semi-active data to determine whether there is any further use of the data anticipated and whether the data can be marked as inactive.</td>
</tr>
</tbody>
</table>

(continued)
As I analyzed the different stages in the information lifecycle and the associated actors, it is also crucial to understand the organization model that supports and enables the information lifecycle. Figure 2-3 represents the enterprise information lifecycle phases mapped to the actors in the organization model.

### Information Lifecycle—Organization Model

As I analyzed the different stages in the information lifecycle and the associated actors, it is also crucial to understand the organization model that supports and enables the information lifecycle. Figure 2-3 represents the enterprise information lifecycle phases mapped to the actors in the organization model.

#### Table 2-2. (continued)

<table>
<thead>
<tr>
<th>Information Stage</th>
<th>Actors</th>
<th>Roles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data distribution</td>
<td>Data integration team</td>
<td>Data distribution—the data integration team designs the data integration/synchronization jobs that distribute the data to consuming business processes/applications. They work closely with data stewards to define who has access to which data.</td>
</tr>
<tr>
<td>Data disposition</td>
<td>Infrastructure architect</td>
<td>Data disposition—the infrastructure architect works closely with the data steward to understand which data have been marked as semi-active and can be moved to offline storage media.</td>
</tr>
<tr>
<td>Data destruction/retire</td>
<td>Infrastructure architect</td>
<td>Data destruction/retire—the infrastructure architect works closely with the data steward to understand which data have been marked as inactive and can be destroyed/retired.</td>
</tr>
</tbody>
</table>

#### Figure 2-3. Information lifecycle organization model

The organization model is to support the information model from the point of creation/receipt to the end-of-life/destruction stage. At each stage different actors support and manage the information assets based on policies defined in consultation with business.