EXL WHITE PAPER:

DATA INTELLIGENCE

Realizing the value and potential of data assets through Enterprise Quality Information Management (EQIM)

DATA IN TODAY'S WORLD

Today, leading healthcare enterprises are evaluating how to use their data to get ahead. This next evolution of data governance, data integrity, and data intelligence has the ability to transform data into knowledge and lead organizations towards a true self-service model, connecting all elements of data management and data governance. It delivers information and insights that help improve the consumer experience, and sparks innovation and data service trustworthiness.

According to the Information Systems Audit and Control Association's (ISACA) Digital Transformation Barometer, "Nine in 10 enterprises (91%) are attempting digital transformation as they look to spark innovation and explore efficiencies, but a majority of them (64%) are encountering challenges in trying to integrate emerging and immature technologies."

Additionally, leading industry analyst International Data Corporation (IDC) indicates that a lack of data intelligence is affecting data governance efforts. Without it, companies are wasting time – up to 30%, or 12 hours per week if trustworthy data isn't delivered to the right users at the right time.

DATA DILEMMA

Healthcare organizations have more data than ever, but how do they use it to derive accurate and actionable insights? No matter the size of the business, there tends to be a similar refrain across the C-suite as it relates to data:

"I don't know what data I have. I don't know where it is. What can I do with it to get more value?"

These questions come from a lack of overall data and asset control and visibility, as well as challenges with legacy architectures. Enterprises spend more time looking for their data than using it to create business value. In fact, data analysts spend 80% of their time prepping data for projects, but only 20% actually using that data to produce results.

Healthcare entities therefore need to view their data from different angles, discover how it's dispersed, and, ultimately, gauge how it affects the organization. Next, they need to align a business view with the technical aspects of data management and synchronize. Only then will they have a reliable, agile, and efficient data capability with demonstrable and sustainable value.

SEVEN STEPS TO DATA INTELLIGENCE

If your organization is looking to gain more value from its data, here are few steps to help you create an effective data intelligence program:
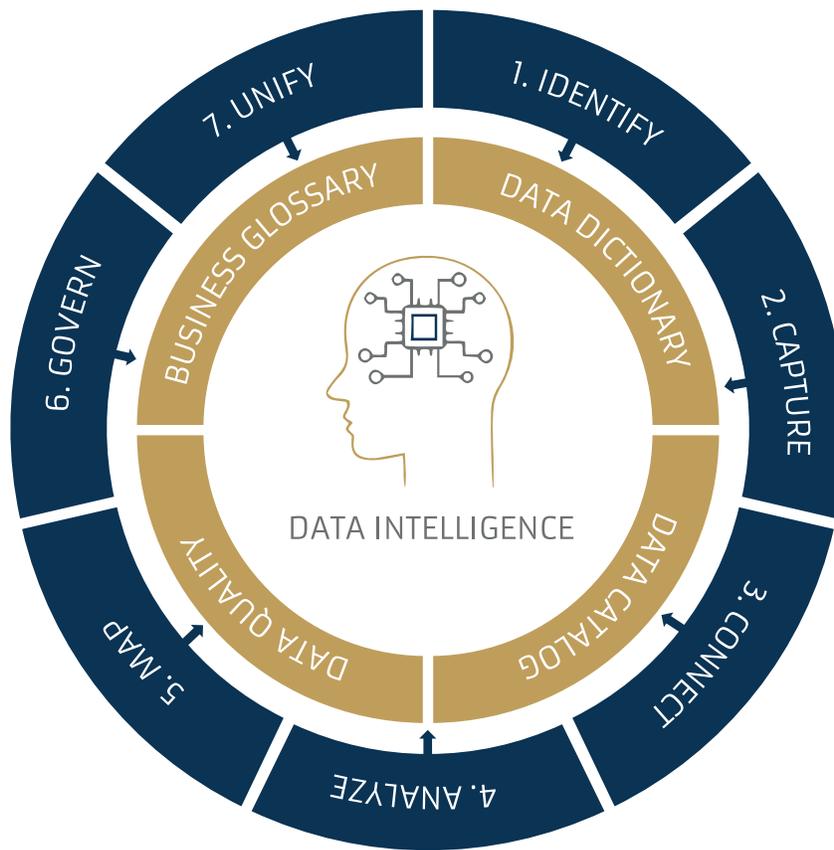

Fig-1: Seven Steps to Data Intelligence

1. Identify - Identify and interrogate the working details of any component of your organization's data management infrastructure (data stores, data integration/movement), regardless of location or technology utilized. This helps you ascertain what data is stored and how, and how it moves and transforms throughout the enterprise.

2. Capture - Create an automated and sustainable method to capture and centralize metadata from various sources to provide a single, standardized view from which you can understand, integrate, administer, and deploy data to the enterprise.

3. Connect - Enrich physical metadata by connecting it to business semantics, rules, and usage to enable better stakeholder understanding, capability, and collaboration regardless of role or expertise.

4. Analyze - Easily identify and understand how different data elements, data sources, and data management infrastructures converge to satisfy specific business use cases.

5. Map - Understand the existing flow of data and manipulate that flow in support of business operations and strategic transformation to capture lineage, enable impact analysis, and accelerate the integration and deployment of new data sources and data management infrastructure.

6. Govern - Apply policy, procedures, regulations, standards, and best practices to any/all data (at rest or in motion), regardless of technology, to provide guidance, awareness, and capability around the privacy, security, proper usage, ownership/responsibilities, and risk mitigation of enterprise data. Ongoing policy and procedure enforcement against data assets is critical for effective data management and ensuring availability of the right data at the right time for business and IT users.

7. Unify - Provision and manage access to a unified view into the content, mechanisms, and controls of your data assets and infrastructure. Equally important, this view must be tailored to the context and perspective of the consumer's role. This allows the consumer to gain visibility into the appropriate data assets while enabling users to search and browse on their terms, and collaborate with their partners in the business. This aids in breaking down business and technical silos, in turn increasing self-service capability and promoting stakeholder fluency (awareness and understanding).
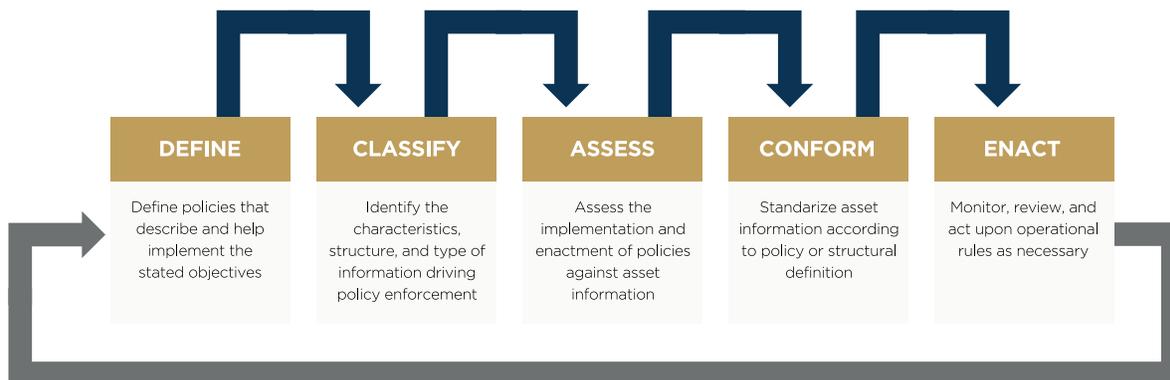
DEFINE	CLASSIFY	ASSESS	CONFORM	ENACT
Define policies that describe and help implement the stated objectives	Identify the characteristics, structure, and type of information driving policy enforcement	Assess the implementation and enactment of policies against asset information	Standarize asset information according to policy or structural definition	Monitor, review, and act upon operational rules as necessary

Fig-2: Ongoing policy and procedure enforcement

Data efficacy in a highly connected world

Welcome to connected world!

There are 5.11 billion mobile users and 4.44 billion internet users worldwide, an increase in 2018 of 100 million and 366 million, respectively. In this digitally connected world, data is the glue that keeps everyone (member, payer, provider, regulators, customer, seller, and supplier) engaged.

Does your organization have right governance, management structure, and tools in place to manage this strategic asset effectively?

Think about the key governance tools that can support your company in its journey to become a data-driven enterprise. What tools do you need to make data a strategic focus and set your organization up for success?

ENTERPRISE QUALITY INFORMATION MANAGEMENT:

Data Governance, Data Management, Data Catalog, and more

One of the most intriguing analyst predictions about data comes from IDC, which predicts that by 2027 we will be able to value data assets on balance sheets in accordance with Generally Acceptable Accounting Principles (GAAP) standards. Data governance and data management are critical elements to effectively realize the value of data in an organization.

Data Governance is all about strategy and direction – deciding what to do about data and monitoring and enforcing policies and procedures.

Data Management is all about operations and execution – collect, store, organize, protect, process, and maintain the integrity of data. It's essential for organizations to nurture strong governance and management functions to exploit the potential of their data assets.

DISCOVER

- Data discovery
- Data profiling
- Data inventories
- Process inventories
- CRUD analysis
- Capabilities assessment

DEFINE

- Business glossary creation
- Data classifications
- Data relationships
- Reference data
- Business rules
- Data governance policies
- Key performance indicators

MEASURE & MONITOR

- Proactive monitoring
- Operational dashboards
    - Reactive operational DQ audits
    - Dashboard monitor/audits
- Program performance
- Business value / ROI

APPLY

- Automated rules
- Manual rules
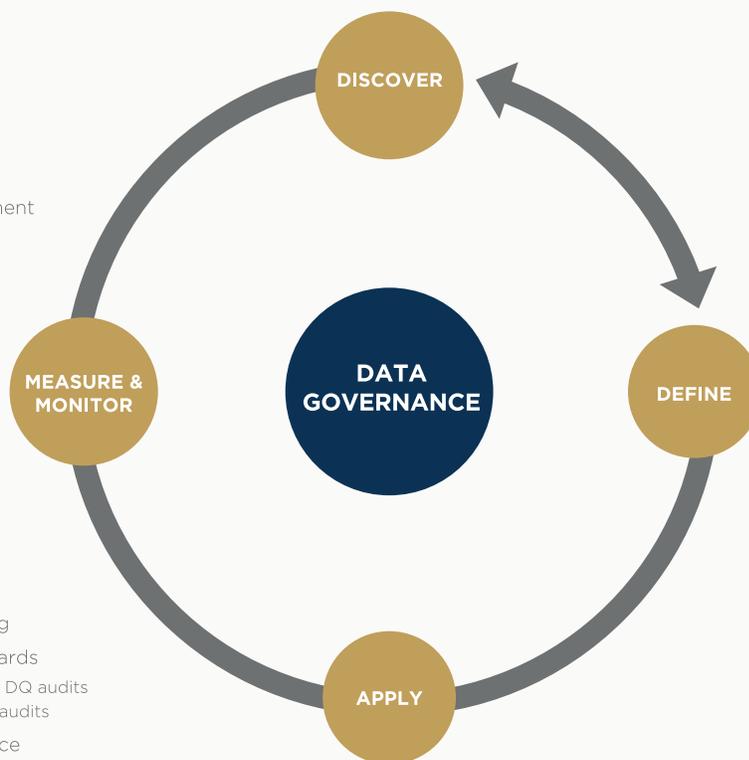- End-toend workflows
- Business / IT collaboration

Fig-3: Data Governance

While strengthening data governance and management capabilities around people, processes, and technology, there are certain tools that bring tremendous value to data consumers – one of these tools is a data catalog. Unless data scientists, business analysts and business owners can quickly and easily find the right data for analytics and decision-making, data management investments are essentially useless.

WHY A DATA CATALOG?

Think of the last time you shopped on Amazon. There millions of products at your fingertips, yet you can quickly search for an item and find product information, video, similar products, and user reviews. That's the power of data catalog combined with advanced search capabilities.

Now imagine you are a data scientist in a large healthcare system, and imagine the value of a search capability similar to that of Amazon. When planning an analytics initiative with multiple data sources (Data lake, EDW, DevOps and Digital apps etc.), it is invaluable to be able to search easily for datasets, standard business language, domains, and data lineage.

ENTERPRISE DATA CATALOG – A GPS IN AMAZON FOREST

Enterprises need a well-designed data catalog to navigate effectively in today's data maze. A lack of strong data management or data catalog foundation would significantly hamper a data-driven approach for decisionmaking, business growth, and customer engagement. This digital economy, or transformation, is a secular trend. Organizations that build strong foundations of effective data management and analytics capabilities at the onset of this secular trend will have a significant competitive advantage.

I UNDERSTAND THE IMPORTANCE OF THE DATA CATALOG; NOW HOW DO I EXECUTE?

Product or custom solution?

Selecting a product for your data catalog or building a custom solution depends on where your organization stands in its data management and data governance maturity journey. While the ability to find the right data in the enterprise is critical for data scientists, engineers, and business analysts, it's even more important that data quality conforms to business needs. A solid understanding of your existing enterprise data governance and data management capabilities, strengths, and weaknesses is key to zeroing in on a product that fills in your current gaps and leverages existing strengths. A data catalog is a foundational element for a data-driven organization, so the investment is long-term. Therefore, take your time to do thorough due diligence before you select or build a product.
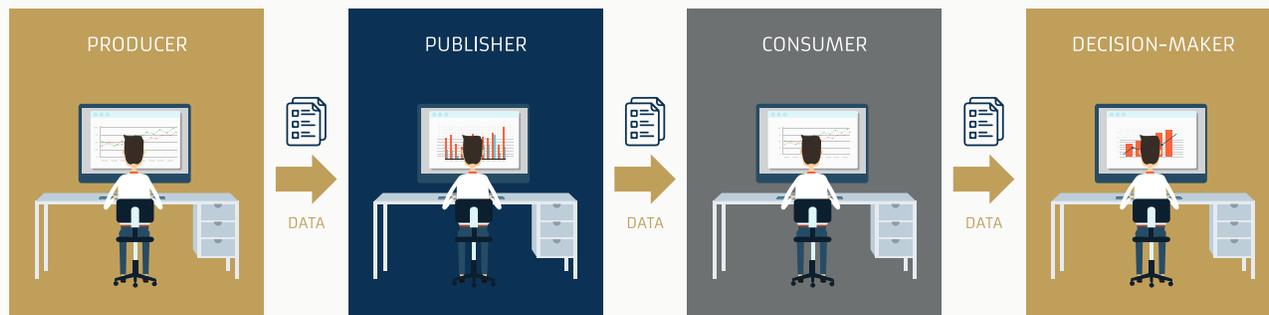
After the product decision, the next step is implementation strategy. There are several factors to consider when designing your strategy:

Pilot rollout: Don't try to boil the ocean by rolling out the data catalog to the entire organization in one go. Rather, perform a pilot implementation for a selected analytics use case so that any bumps during implementation have a limited impact. Lessons learned from the pilot can be suitably reflected into future rollouts.

Right mix of team: Involving the right stakeholders (business stakeholders, IT leaders, data stewards, data scientists, data engineers, SMEs, business analysts) in the pilot is important to address any issues during implementation, and share lessons learned with the rest of the organization to help the subsequent enterprise-wide rollout.

Selection of data sources: Select the use case in such a way that the pilot initiative touches key data sources within the enterprise.

Snapshot of metrics/KPIs: Prior to implementation, take a snapshot of vital productivity metrics for implementing similar use cases without a data catalog. This way, you have a baseline to compare and observe improvement in productivity and ease of data access after implementation.

Share your success: Have stakeholders share pilot rollout success stories with the rest of organization to create enough momentum and interest for future rollouts.

In the world of self-service, data-driven analytics, the Enterprise Data Catalog should make the data and code sets (which enable data search) easier and seamless for both business and IT users across the organization.

To realize better ROI from the data catalog, organizations need to ensure the following four elements:

DATA QUALITY

Either as part of the Enterprise Data Catalog or within the enterprise, are the necessary checks and balances in place to ensure the quality of data?

METADATA & DATA TAGGING

Even though the data quality may be great, if the data is tagged incorrectly or information about the data is presented improperly, users may not able to find the right data. Ensure your organization properly tags its data while collaborating across business and IT.

HONEST USER REVIEWS

Are data scientists, engineers and business analysts rating or vouching for the data quality and tagging in your organization? This will assure users of data quality and the correct means to access.

SIMILAR DATA

When users perform a search in the data catalog, can you provide similar datasets that other stakeholders used for the same use case or business context?

IN SUMMARY

Data is the cornerstone of every enterprise, and it's essential that data is trustworthy wherever information is consumed for decision-making. If there is no data lineage or rigorous audit process, the decision integrity is always questionable.

Therefore, there must be a robust, maintainable, and dynamic way to manage enterprise information assets through easy-to-use user interfaces and a change management process. Whether this process is metadata and an entity description, a change in mapping for code sets, or just an algorithm tweak, the information must be published to enterprise consumers at the business level. It will enable them to easily understand what has been presented for consumption.

Quite often, today's applications are simple repositories; you will need much more than this. Look for an application pre-populated with starter packs of definitions and code sets for enterprise data management. For the foundation of your enterprise information management strategy, it is essential to have a dynamic way to manage the information your business consumes. There are no shortcuts in a solid data cataloging endeavor, but the endeavor is a fundamental part of your enterprise data management strategy.

AUTHORS

JOHN BACKHOUSE

John Backhouse is a visionary leader in Healthcare Enterprise transformations, with a 20+ year history of driving Healthcare organizations to translate analytical challenges into innovative solutions. John is known for his deep understanding of Healthcare and its highly complex demands, which has led him to success in many patient engagement initiatives. John's comprehensive operational and systems experience offers clients a unique and extensive understanding of how the multiple players in Healthcare operate, collaborate, and succeed. John is currently responsible for EXL Service's Healthcare vertical for data management and technology solutions, and the strategic planning of technology, service expansion and innovation.

Having previously led the technology execution for multiple EDM platforms, John brings substantial expertise in systems integration, platform rationalization, and enterprise data management. John has successfully designed and executed on major deployments of core business applications, led digital transformation, and launched new software products. Additionally, he introduced robotic process automation, natural language processing, artificial intelligence, and other forms of innovation to evolve and streamline operations.

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Palani Munisamy is a managed Healthcare professional with 20+ years of well-rounded experience in payer and provider market segments. Palani is passionate about healthcare and has a deep understanding of business, operational, and IT functions of both payer and provider systems, and leverages this understanding to create value for clients.

He brings extensive expertise in solution consulting, Healthcare analytics, client relationship management, business liaison, and global delivery – bringing unique perspectives to business and client challenges. As part of EXL Service's Healthcare Analytics practice, Palani leverages data and analytics to help clients effectively manage medical costs and improve care outcomes and member experience.