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Are you a data-driven organization?

An information management point of view



1926
2016

Ninety years in
the Middle East

Level-setting

Change is knocking at your door

The world is changing at a rapid pace as organizations are digitizing faster and moving online and mobile to conduct business. Most recently in May 2015, Amazon overtook global retail giant Walmart in terms of market cap and is now officially the largest retailer in the world.¹ In the automotive industry, Audi launched “virtual dealerships” that allows customers to visualize and personalize their model of car using interactive and tactile displays, leading to a sharp rise in sales and reduction in real estate costs.²

In the next five years, we'll generate more data as humankind than we generated in the previous 5,000 years – A Microsoft Study³

So the trend is loud and clear - consumers are moving online and shopping from the comfort of their homes, while organizations are digitizing their assets rapidly to gain competitive advantage. The global digitization trends have dramatically increased the power of the data, and necessary steps have to be taken to manage this phenomenon. Organizations that capture data and make sense of it will be coming ahead in the coming years. Here are some additional trends if you are still not convinced:

- Thousands of scientists took more than 10 years and spent more than US\$3 billion to decode the first human genome. With the advancements in data management, scientists can now decode a genome in less than 24 hours for about US\$1,000.⁴
- The number of mobile-connected devices exceeded the world's population in 2014. By 2019, there will be 11.5 billion mobile-connected devices exceeding the world's projected population at that time of 7.6 billion.⁵

So the change is here in our backyard and it has come faster than most people realized.⁶ Organizations that harness data to gain insights of their customers will position themselves for better success in the long-haul. However, realizing these insights to become a data-driven organization requires a disciplined approach.

The Middle East is catching up

The Middle East is catching up with the rest of world in terms of data growth. The region is expanding its digital footprint and the outcome of digital expansion is the generation of data. Due to the impending arrival of Expo 2020, the UAE government is working towards ensuring that essential services of citizens are digitized. The UAE has embarked on a smart data plan and most recently issued a new law that enabled all government entities to share non-confidential data between government entities and key stakeholders. Here are some additional indications of the trend:

- Global mobile data traffic grew 69 percent in 2014 whereas Middle East and Africa mobile data traffic grew 107 percent.⁷
- The e-commerce market in the Middle East grew from zero in 2008 to US\$40 billion in 2015.⁸

As evident from these trends, it is clear that a wave of digitization is going to consume the region in the coming years. Leading organizations are harnessing this massive data to gain insights into consumer behavior and to access a 360-degree view of the consumer.

Information management is an essential component to achieve the digital maturity objective of an organization. The new buzzwords in the market are big data, analytics and Internet of Things. Before organizations embark on a big data and analytics journey, a data foundation framework needs to be in place to handle the future data growth.

How prepared is your organization?

The pace of change requires that organizations react quickly to the changing needs of customers and regulatory agencies. As evident in the below diagram, organizations are facing a variety of competing priorities to use data as a strategic asset in the global marketplace.

Figure 1: Challenges facing organizations



Organizations are also facing a variety of challenges internally to achieve data maturity. The main challenges are the following:

- **Lack of ownership by business**
In many organizations, data governance is IT-led as opposed to business-led. Often business don't have the technical skills or the appetite to learn about data problems and distance themselves from these IT transformations. This results in IT-led governance programs and hence less buy-in from key stakeholders.

- **Lack of trust in existing data**
Often business leaders don't trust data to make informed decisions. The data quality of the systems is so bad that it takes enormous effort to remediate the data and generate a consolidated report.
- **Multiple versions of truth**
There are no central enterprise-level data definitions and dictionaries that are consistently applied across the enterprise. Additionally, there is no central committee to manage the data and information as each business unit creates siloed "excel factories" to support needs. This creates enormous strain on organization to later integrate into the single source of truth of the enterprise.

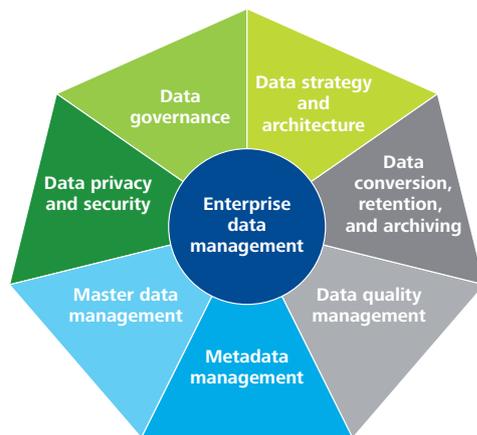
The good news is that achieving data foundational capability is not beyond the means of any company. In the journey towards information management maturity, it is important to treat data as a critical strategic asset. In this white paper, the foundation necessary for the organization to have an information management backbone is discussed.

With a population of 28.3 million, Saudi Arabia is now the biggest user of YouTube per capita in the world – A Reuters Study⁹

Enable the data foundation layer

The data foundation of any IT organization is laid out by enabling the following seven cornerstones of data management as outlined in the visual below. In this paper, we focus on data governance, data quality and information/data architecture as enabling those functions that will lay the foundation for addressing other aspects of data foundation. Organizations cannot achieve information management excellence if they do not have quality data, with the right owners and defined data structures.

Figure 2: Data management capabilities



An effective data governance framework will create a business-led and IT-enabled data governance for the organization. A typical data governance framework will have four guiding principles:

1. View data as a strategic asset
2. Link to strategic initiatives
3. Enable a comprehensive change management program
4. Be driven by business value

The below table outlines the advantages of data governance.

Improve efficiency	<ul style="list-style-type: none"> • Improved coordination between business units to remove information management inefficiencies. • Enable better insights into data, specific to products and business units. • Ensure that data stewardship, data standards and policies are in place and consistent metrics available.
Lower cost	<ul style="list-style-type: none"> • Consolidation of multiple standalone applications used globally for similar functions. • Cost reduction through the application of standard processes.
Improve compliance	<ul style="list-style-type: none"> • Establishes cross business/cross-function information standards, processes and central data management of subject areas. • Institutionalizes data ownership and stewardship across functions and reduces risk of non-compliance with regulatory and statutory requirements.
Improve control	<ul style="list-style-type: none"> • Single-source high quality data improves reporting accuracy, reducing risks and improving risk analytics. • Implementation of information management and governance capabilities enforces controls around how customer data is created, managed, and used across functions.

By 2016, 20 percent of CIOs in regulated industries will lose their jobs for failing to implement the discipline of information governance successfully – A Gartner Study¹⁰

Data governance

Data governance is a discipline originating from enterprise information management. There are several scenarios that trigger the need for organizations to move from plain data management to formal data governance. These scenarios include organizations increasing in size and complexity or difficulties due to data integration as well as organizations facing challenges due to regulatory requirements.

Data quality

Data quality problems cost U.S. businesses more than US\$600 billion per year.¹¹ Yet, most executives are oblivious to the data quality challenges that are impacting an organization’s ability to react quickly to changes. Poor data quality will have a damaging impact on an organization’s credibility in the market and will have a negative impact with regulators.

Effective data management provides reliable data that satisfies the business functions and technical requirements of the enterprise. Data quality is typically

measured in terms of accuracy, consistency, relevance, integrity, accessibility and serviceability.

A typical data quality framework will address the data quality issues of an organization from three angles:

1. People
2. Process
3. Technology

In terms of people, the data quality framework addresses assigning the right data owner, data steward and data architect to delegate accountability and roles and responsibilities. The process aspect seeks to define the organization's approaches to data profiling, data cleansing and data remediation. Lastly, the technology element aims to define the data quality tool and the appropriate scorecards to monitor ongoing data quality compliance.

The below table outlines the advantages of data quality for an organization.

Regulatory compliance	<ul style="list-style-type: none"> • Data integrity enables compliance with regulations. • Good data quality enables less effort in data remediation and a better response to changing regulatory market conditions.
Increased customer satisfaction	<ul style="list-style-type: none"> • Enables the creation of a 360-degree view of customers and the ability to serve the customer from all angles. • Poor data quality can bring serious damage to an organization's reputation as evident in the case of 17,000 men getting pregnant in Britain.¹²
Accurate decision-making	<ul style="list-style-type: none"> • Enables a single source of truth for the enterprise and accurate decision-making. • Good data quality can lead to correct conclusions and correct decisions based on accurate information.
Operational cost	<ul style="list-style-type: none"> • Reduces the need for manually intensive activities, and error-prone data integration processes, and helps to reduce inefficiencies and data redundancy. • Potential elimination of duplicate stores as well as reduced data-cleansing costs.
Greater confidence in analytics	<ul style="list-style-type: none"> • Single-source high quality data improves reporting accuracy and improves risk analytics. • Provides consistent high quality data as a source for reporting and analytics.

Data architecture

The data architecture is an important part of information management as it allows data integration across the enterprise. Laying the foundation for data architecture enables data modeling, master data management and metadata management.

The foundation of data architecture is the information management model that provides the foundation or communication vehicle between business and technology. The model defines the future design and capabilities that will be created and offered to the organization for managing its enterprise data. Building an enterprise-level model brings standardization to names and most importantly definitions of entities across the organization.

This information provides a foundation to allow the organization to move and develop various enterprise data management capabilities while ensuring that the organization works towards a common goal.

The below table outlines the advantages of information architecture.

Improves record management	<ul style="list-style-type: none"> • Improves the data-collection practices and technologies. • Improves internal controls around data security.
Improves content management	<ul style="list-style-type: none"> • Strengthens the inter-departmental relationship function through increased ability to share data. • Leverages workflow and collaborative review technologies to streamline process.
Improves change management	<ul style="list-style-type: none"> • Aligns staff development and training with policy goals. • Redesigns knowledge-management practices to improve information accessibility and dissemination.
Improves infrastructure and tools	<ul style="list-style-type: none"> • Leverages analytics tools and systems to conduct analysis. • Improves data warehousing and access tools. • Improves ability for end-users to generate ad-hoc and customized reports.

In summary

The path to a data-driven organization can only be achieved when users trust the data and there is ownership and accountability to fix bad data. Organizations can have the latest data management and analytics tools in the market and can have the fanciest dashboard for leaders to make decisions. However, these things will not bear fruit if the users do not trust the underlying data and if there is no accountability to fix the bad data. An effective data-management foundation will ensure that data is clean and evergreen, and that there is data ownership by business leaders.

Establishing data-management capabilities requires significant investment in financial and human resources, and the benefits will be realized over a longer term as opposed to immediate results. Companies that invest proportionally to manage data as a strategic asset will stand greater chance of success in today's competitive global economy. As the proverb goes, "A journey of a thousand miles begins with a single step" and the journey towards a data-driven organization starts with establishing an effective data-management foundation.

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Contacts

Your key contacts for further discussion about the content of this report:



Rajeev Lalwani

Partner

Head of Technology

Tel +971 4 376 8888

rlalwani@deloitte.com



Yasim Kolathayil

Senior Manager

Technology - Information

Management & Analytics

Tel +971 50 4666205

yakolathayil@deloitte.com

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