

# Road to AI Adoption - Part II

## Data Strategy and Governance Framework

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## Table of contents

<b>Introduction</b>	<b>3</b>
What is Data Strategy?	3
Why Data Strategy?	3
Data Strategy and Artificial Intelligence	4
<b>Understanding Data Strategy</b>	<b>5</b>
Types of Data Strategy	5
1. Defensive	5
2. Offensive	6
Creating value from Data : Four Perspectives - Value creation Framework	8
<b>Developing a successful Data Strategy Roadmap - Navigating the Data-driven future</b>	<b>9</b>
Key Phases for developing a Data Strategy Roadmap	9
1. Define data objectives to align with business goals	9
2. Assess and map the current Data Landscape	10
3. Embrace Data Governance	10
4. Data Collection and Integration	10
5. Data Management, Storage and Infrastructure	10
6. Implementation, Execution and Change management	10
7. Measure and optimise	11
<b>Building an Effective Data Governance Programme</b>	<b>12</b>
Data Governance and governance framework	12
Steps to build an effective Data Governance Programme	13
1. Secure Executive support and ownership	13
2. Define Data Governance strategy/objectives	13
3. Establish a Data governance team	13
4. Assess current data assets and data practices	14
5. Assess Data Management maturity	14
6. Create a Data Governance process	14
7. Establish a Data steward community	14
8. Data governance tools	15
9. Monitor, measure and improve	15
<b>Next steps</b>	<b>15</b>

# Introduction

In an era of unprecedented data abundance, organisations are increasingly realising the need to develop a robust Data Strategy to effectively harness the power of data and drive business success. Also, organisations that harness the power of data are better positioned to thrive and adapt to the rapidly evolving business landscape.

## What is Data Strategy?

A Data Strategy is a comprehensive plan or framework that outlines an organisation's approach to managing, using, and deriving value from data. It serves as a roadmap for how an organisation will collect, store, process, analyse, and leverage data to achieve its business objectives. A well-defined Data Strategy helps align data-related activities with the organisation's overall goals.

A well-developed Data Strategy has:

- A strong Business case/reason
- A strong Data Management vision
- Guiding principles, values and management perspectives
- Well-considered goals for the data assets under management
- Metrics and measurements of success
- Short-term and long-term program objectives
- Suitably designed and understood roles and responsibilities
- A clear Data Lifecycle coverage for all the data assets in the organisation

## Why Data Strategy?

A well-defined Data Strategy Framework provides a structured approach to managing and leveraging data as a strategic asset, enabling organisations to make informed decisions, derive valuable insights, and gain a competitive edge.

This document introduces a comprehensive Data Strategy framework that provides a structured approach to managing and leveraging data strategically. The framework outlined here is designed to assist organisations in developing a clear roadmap for their data-related initiatives.

By implementing an effective Data Strategy Framework, organisations can overcome challenges associated with data management, ensure data quality and integrity, enhance decision-making processes, and drive innovation. It enables organisations to adopt a strategic mindset towards data, aligning data initiatives with business objectives and ensuring that data is treated as a valuable asset throughout its lifecycle.

It encompasses various components, including data governance, data architecture, data lifecycle management, data analytics, privacy and security, organisational culture, and implementation planning. By adopting this framework, organisations can align their data initiatives with business objectives, establish robust governance mechanisms, optimise data management practices, and unlock the full potential of their data assets.

Furthermore, the framework emphasises the importance of data privacy and security, enabling organisations to safeguard sensitive information and comply with regulatory requirements.

## **Data Strategy and Artificial Intelligence**

Data strategy is critically important for Artificial Intelligence as it provides the foundation and framework for an effective AI adoption. It ensures that an organisation's data assets are managed strategically, supporting the development and deployment of AI solutions that drive innovation, efficiency, and competitiveness. Without a well-defined data strategy, AI initiatives may face challenges related to data quality, governance, scalability, and alignment with business objectives, hindering their success.

# Understanding Data Strategy

## Types of Data Strategy

### 1. Defensive

Defensive Data Strategy primarily focuses on protecting an organisation's Data assets, ensuring data security and maintaining compliance with relevant regulations and standards thereby preventing negative outcomes.

This strategy is designed to mitigate risks associated with data breaches, unauthorised access, and data loss, particularly when dealing with sensitive or confidential information.

Defensive strategy includes:

- **Data Security** - Encryption of data at rest and in transit, access controls, authentication mechanisms, using analytics to detect and limit fraud, intrusion detection systems to safeguard data from unauthorised access and cyber attacks.
- **Data Privacy** - Ensuring privacy of personal and sensitive data and complying with data privacy regulations such as GDPR (General Data Protection Regulation), HIIPAA etc.
- **Data Governance** - Establishing efficient Data Governance frameworks, roles and responsibilities to oversee data-related policies and procedures.
- **Regulatory Compliance** - Complying with relevant Data Protection and industry-specific regulations, meeting legal requirements, reporting data breaches where necessary and conducting privacy impact assessments.
- **Data Backup and recovery** - Implementing data backup and recovery procedures is crucial to minimise the impact of data loss incidents, such as system failures, cyberattacks, or natural disasters.
- **Monitoring and Auditing** - Continuous monitoring of data activities and regular audits are key aspects of a defensive data strategy. These measures help detect security breaches or compliance violations in a timely manner.
- **Secure Data disposal** - Properly disposing of data when it is no longer needed is essential to prevent data leaks. Secure data disposal practices are outlined in this strategy

- **Technology Stack** - Recommending or mandating specific security measures, technologies and tools such as firewalls, antivirus software, intrusion detection systems and data loss prevention solutions.
- **Risk assessment** - Conducting regular risk assessments helps identify vulnerabilities and threats to data security, allowing organisations to proactively address potential issues.

Defensive Data Strategy is particularly important in industries like Healthcare, Finance and Government where data privacy and security are paramount.

## 2. Offensive

An offensive data strategy, sometimes referred to as a data-driven growth strategy or an offensive analytics strategy, focuses on using data as a strategic asset to drive business growth, innovation, and competitive advantage.

Unlike defensive data strategies, which primarily focus on protecting data assets and ensuring compliance, an offensive data strategy aims to leverage data proactively to achieve specific business objectives.

This includes:

- **Data-driven Decision making** - Encouraging employees to use data to inform their choices and actions thereby enhancing the overall decision-making process.
- **Business Intelligence:** Strong emphasis on business intelligence (BI) tools and practices that involves the collection, analysis, and visualisation of data to provide insights that drive strategic decisions and actions.
- **Data Analytics:** Advanced data analytics techniques, such as descriptive, predictive, and prescriptive analytics, are integral to this strategy. Organisations leverage data to identify trends, make forecasts, and optimise processes.
- **Data Monetisation:** Exploring opportunities to monetise data which may involve selling data, creating data products, or using data to enhance existing offerings. Monetization strategies can generate revenue and create new business models.
- **Customer Insights:** Understanding customer behaviour and preferences is a key focus. Organisations use data to gain deep insights into customer needs, enabling personalised marketing, product development, and improved customer experiences.

- **Innovation:** Data is seen as a driver of innovation. Organisations use data to identify new market opportunities, develop innovative products and services, and streamline operations.
- **Competitive Advantage:** Giving the organisation a competitive edge by leveraging data effectively. Organisations can respond more quickly to market changes and outperform competitors.
- **Data Culture:** Fostering a data-driven culture is essential. The strategy encourages employees to embrace data as a valuable asset and provides training and resources to enhance data literacy and data-oriented thinking.
- **KPIs and Metrics:** Establishing key performance indicators (KPIs) and metrics is crucial to measure the impact of data initiatives. It allows organisations to assess the effectiveness of their data-driven efforts.
- **Data Integration:** Integrating data from various sources is essential for a holistic view of the business. Data integration tools and practices are used to ensure that data flows seamlessly across the organisation.
- **Data Exploration:** Encouraging data exploration and experimentation is part of the offensive data strategy. This includes data discovery, hypothesis testing, and exploring new data sources and technologies.
- **Strategic Partnerships:** Collaborating with external partners and data providers can enhance data capabilities and insights. Partnerships may involve data sharing agreements and joint analytics initiatives.

Every organisation needs both Offensive and Defensive strategies but getting the right balance can sometimes be a bit tricky. Applying equal emphasis on the two is optimal for some organisations.

## Creating value from Data : Four Perspectives - Value creation Framework

An approach where an organisation focuses on external factors and customer needs before shaping its data-related initiatives and strategies. Customer centric focus, market and competitive analysis, Demand-driven data initiatives.

### **OUTSIDE-IN PERSPECTIVE**

The focus in this case, is on existing processes and workflows of the organisation and how to use data to make them better. Just-in-time inventory management, data-generated insights to predict time taken by a process etc.

### **PROCESS PERSPECTIVE**

In this approach, an organisation focuses on its internal capabilities and resources as the starting point for strategy development. This includes data assets, technological infrastructure and existing processes.

### **INSIDE-OUT PERSPECTIVE**

Use of data to inform and improve decision-making processes within an organization. This perspective is crucial for ensuring that data is used effectively to drive better, more informed choices.

### **DECISION MAKING PERSPECTIVE**



# Developing a successful Data Strategy Roadmap - Navigating the Data-driven future

A data strategy roadmap is a plan or framework that outlines the steps an organisation will take to leverage its data assets effectively to achieve its strategic goals and to transform a business from current state to the desired, data-driven state.

- It provides a structured approach to managing and utilising data as a valuable resource and also helps in implementing compliance and regulatory requirements like GDPR.
- The roadmap serves as a means to communicate the plans to stakeholders, employees, and leadership, and a well-constructed roadmap ought to encompass:
  - Defined objectives: A list of expected achievements upon project completion.
  - Personnel involved: A description of individuals accountable for each process step.
  - Timeline: A structured plan for executing each project phase, with a clear priority for initial tasks.
  - The budget: The allocated budget for every stage within the Data Strategy.
  - The software requirements: An outline of the software needed to achieve the outlined objectives in the Data Strategy roadmap.

## Key Phases for developing a Data Strategy Roadmap

### 1. Define data objectives to align with business goals

The first step in building a Data Strategy roadmap is understanding the business objectives, to answer questions like -

- What are the long-term and short-term goals?
- How can data support and enhance these goals?

The data objectives should align closely with the organisation's broader mission and vision. It's essential to involve key stakeholders from various departments to gather their input and perspectives on how data can help achieve these objectives.

## 2. Assess and map the current Data Landscape

Before moving forward with the Data Strategy, it is important to assess the organisation's current data ecosystem. This involves taking inventory of the organisation's current data assets, examining existing data sources, how they are stored, how data moves through the organisation, data quality, storage infrastructure, and analytical tools. Identify any gaps, bottlenecks, or areas where data is underutilised. This step is crucial as it helps to understand the foundation upon which the Data Strategy will be built.

It is also important to identify the quick-wins while starting on Data Strategy. This will help demonstrate the early value of the effort.

## 3. Embrace Data Governance

Data governance is the framework that ensures data is managed, stored, and used effectively, while data security is paramount to protect sensitive information. It also encompasses Data quality, ethics, privacy, ownership, access and security. An organisation's data strategy roadmap must include a robust plan for data governance and security. Define roles and responsibilities, establish data quality standards, and set up security protocols to safeguard your data assets.

## 4. Data Collection and Integration

Once there is a clear understanding of the organisation's objectives, existing data, and governance framework, it's time to consider data collection and integration. This involves selecting the right data sources, ensuring data compatibility, and implementing data integration tools and techniques. Whether structured or unstructured data, it's essential to have a strategy in place to collect, clean, and integrate data efficiently.

## 5. Data Management, Storage and Infrastructure

The three most popular Data storage options are databases, data warehouses and data lakes. The data strategy should also address data storage and infrastructure. This includes selecting the right data storage solutions (on-premises or cloud-based) and ensuring scalability and accessibility. Keep in mind that as your data volume grows, your infrastructure should be capable of accommodating these changes.

## 6. Implementation, Execution and Change management

One of the less technical but equally important aspects of the data strategy roadmap is fostering a data-driven culture within the organisation - encouraging

employees to embrace data-driven decision-making and provide training and resources to enhance data literacy. It is important to ensure that everyone understands the value of data and how it can support their roles.

With the strategy defined, it's time to implement and execute the plan. This phase may involve making changes to existing processes, acquiring new technology, and training the staff. Regular communication and monitoring are crucial to ensure that the roadmap stays on track.

## 7. Measure and optimise

Lastly, continuous measurement and optimization are essential components of an organisation's data strategy. It is essential to set up key performance indicators (KPIs) to monitor the success of the devised data strategy. Regular review and analysing the outcomes, to be prepared to make adjustments as needed to align with evolving business goals.

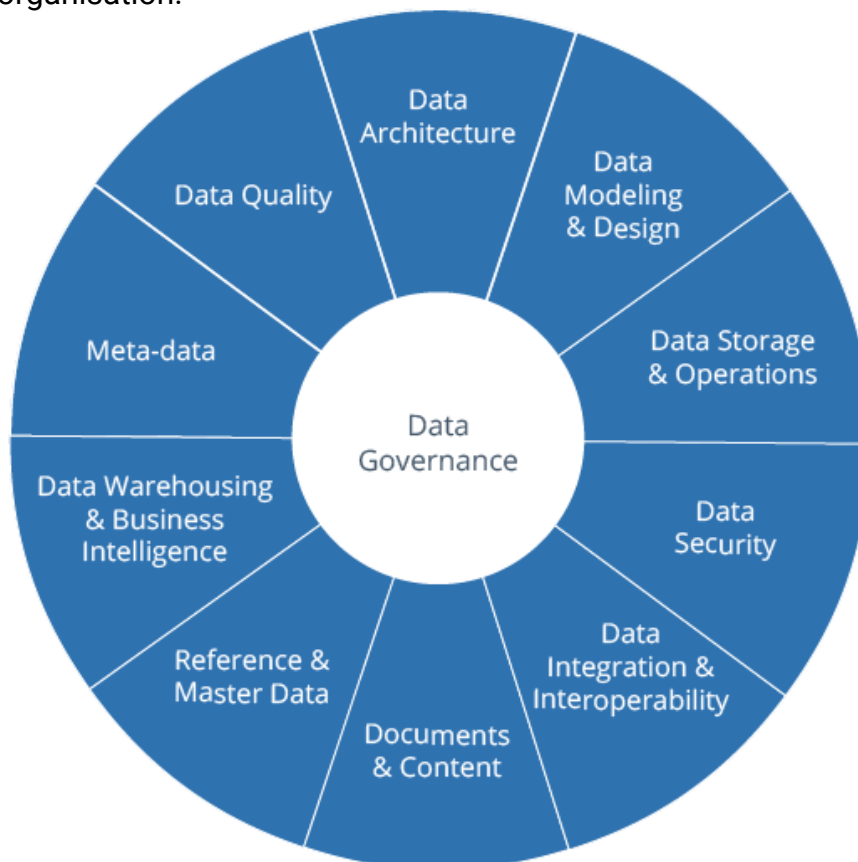
# Building an Effective Data Governance Programme

## Data Governance and governance framework

Data governance is a systematic and organisation-wide framework of policies, procedures, and practices that ensures high data quality, data management, data security, and data privacy within an organisation.

It involves defining and implementing standards, roles, and responsibilities for managing data assets effectively. The primary goal of data governance is to enable organisations to maximise the value of their data while minimising risks and ensuring compliance with relevant regulations and industry standards.

A data governance framework is a structured and comprehensive approach that an organisation adopts to implement and manage data governance practices effectively. It provides a set of guidelines, processes, and best practices for managing data assets within the organisation.



## Steps to build an effective Data Governance Programme

Building an effective data governance program requires careful planning, commitment, and a structured approach. Here are the steps to help you establish a successful data governance programme.

### 1. Secure Executive support and ownership

The first and foremost step is to obtain buy-in and support from senior management and key stakeholders. Executive sponsorship is crucial for allocating resources, setting priorities, and ensuring that data governance is a priority throughout the organisation. A single executive owner is a must for a successful Data Governance programme so that there is one ultimate decision maker to keep the moving forward at a fast pace.

### 2. Define Data Governance strategy/objectives

The next step is to clearly understand, articulate and establish specific business goals and objectives that the data governance program aims to achieve. These objectives will guide the organisation's efforts and demonstrate the value of data governance. This process should also involve consulting with different people at different levels of the organisation, taking into account their inputs to form the Data governance objectives for the programme.

### 3. Establish a Data governance team

Data Governance in an organisation is not the responsibility of just one person but an entire Data governance team with multiple roles and responsibilities. The team includes:

- Executive level roles like Chief Data Officer, Data Steering committee etc.
- Strategic level roles like Data Governance Council, Data Governance Manager etc.
- Tactical level roles like Data Domain Stewards, Data Steward Coordinators, Data Owners etc. and
- Operational Level roles like Data Stewards, Data custodians etc.
- Support Level roles like Data Governance Office / Administrator, Data Governance Partners, Data Governance Working Teams etc.

The selection of roles and responsibilities depends on the size of the organisation and its data requirements. Forming a cross-functional data governance team is essential. This team should comprise representatives from various departments, including IT, data management, legal, compliance, and business units.

#### 4. Assess current data assets and data practices

Prior to engaging in any other data governance initiatives, organisations should undertake the essential tasks of assessing its current data assets, data cataloguing and classification. Cataloguing entails the consolidation of all data into a single repository to enhance comprehension.

Meanwhile, classification encompasses the precise definition of data and its division into functional categories, enabling companies to establish diverse policies (such as confidentiality, location, and privacy) based on it.

This step also involves identifying and determining the most critical data assets within the organisation, taking into account their importance in various business processes, compliance requirements and decision making.

Also, conduct a comprehensive assessment of current data management practices, data quality, data security, and data privacy policies. Identify areas where improvements are needed.

#### 5. Assess Data Management maturity

A Data Management Maturity assessment shows the areas where the organisation's current practices support success, and where they could use improvement.

#### 6. Create a Data Governance process

The next step is to develop and document data governance policies, standards, and guidelines, covering aspects such as data classification, data quality, data security, and data privacy.

Design and implement well-defined data governance processes for data stewardship, data quality management, data security, and data privacy. These processes should be integrated into everyday operations.

#### 7. Establish a Data steward community

The success of Data Governance relies heavily on the presence of Data Stewards who possess substantial first-hand data knowledge. These individuals should be provided with well-defined expectations before actively participating in the Data Governance process.

Most of the Data Stewards usually have other job responsibilities to fulfil. Hence, training plays a pivotal role here. Offering training opportunities to data stewards is crucial, as it allows them to improve their proficiency and effectiveness. This investment serves to underscore the value and significance of their contributions.

## 8. Data governance tools

Selecting and implementing appropriate data governance tools such as data cataloguing, metadata management and data lineage tools, play a very vital role in supporting the programme's objectives. It's best to procure a third-party tool instead of trying to develop an in-house one. This saves a lot of time and helps the organisation to move forward quickly. A data-quality tool is a must have as it allows the generation and execution of data rules for Data Quality metrics.

## 9. Monitor, measure and improve

The last but not least step is to implement data governance metrics and key performance indicators (KPIs) to assess the program's effectiveness. Continuously monitor and report on progress.

Recognize that data governance is an ongoing process. Regularly review and refine the program based on feedback, changing business needs, and evolving data challenges.

# Next steps

In conclusion, it is vital to recognise that Data Strategy and Data Governance are not one-time endeavours, but rather ongoing, dynamic processes. The rapidly evolving digital landscape, changing business needs, and shifting regulatory landscapes necessitate a continuous commitment to managing and leveraging data effectively.

Digital Catapult stands as a valuable partner for organisations seeking to excel in both Data strategy and Data governance. Through its expertise, resources, and innovative solutions, it empowers businesses to adapt and thrive in the data-driven era. Whether it's crafting robust data strategies to unlock new opportunities or establishing and refining data governance practices to ensure data integrity and compliance, Digital Catapult offers the guidance and tools necessary for success.

Organisations can access our free self-assessment toolkit for Digital Transformation, Data Maturity and Data readiness [here](#).

By embracing the continuous nature of data strategy and governance and harnessing the support of organisations like Digital Catapult, businesses can remain agile, competitive,

and at the forefront of the digital revolution, where data is not just a valuable asset but the lifeblood of sustainable growth and innovation.