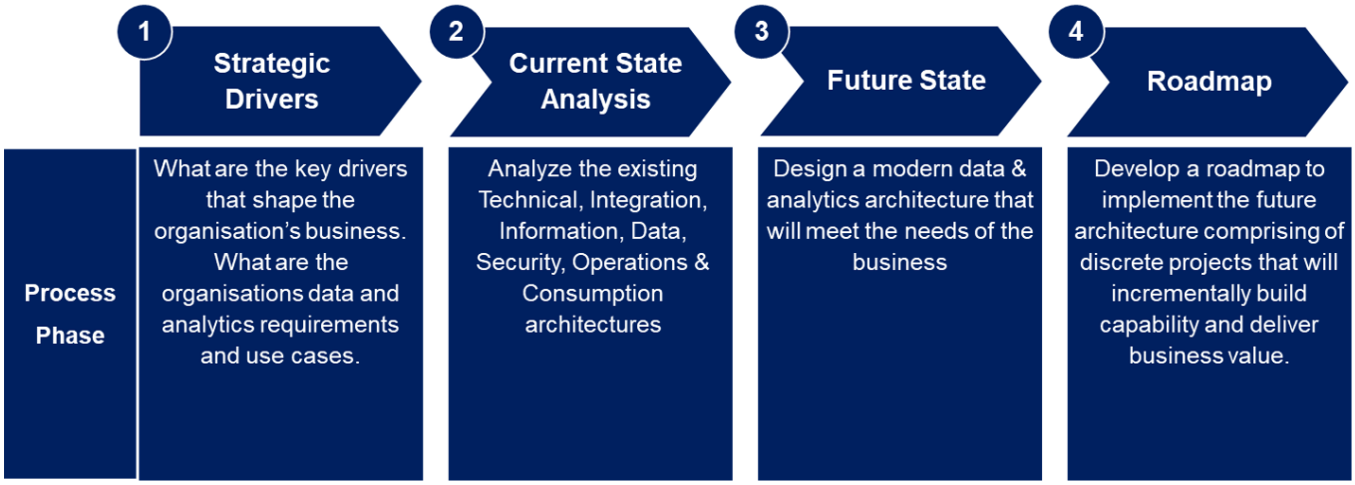
Fujitsu Data & AI Data and Analytics Assessment

Data and analytics capabilities have advanced a lot in recent years. Reporting and analytics tools have made more data available to more people more easily. Data science and artificial intelligence technologies have become mainstream. Yet many organisations are still older operating older data platforms which may meet basic business reporting needs but are not fully capable of providing the advanced analytics capabilities required by modern business. These organisations must decide whether to upgrade their existing platform to implement modern analytics capabilities or to invest in a new platform that is specifically designed to deliver advanced analytics. This decision can be difficult as it requires a detailed knowledge and experience of the technologies available.

At Fujitsu Data & AI we specialise in data and analytics solutions and are experienced in providing assessments for clients on the capabilities of their data and analytics platform. We provide recommendations on how existing data platforms can be upgraded to implement the latest technologies or can provide a design for a future data platform that will meet the needs of modern organisations.

Our approach in delivering a data platform assessment is comprise of four main phases:



Strategic drivers

The starting point for any assessment is to understand the strategic drivers of the organisation and how the data and analytics capabilities will fit in. This looks at the following areas:

- **What are the key business drivers that the assessment needs to respond to?**
  We aim to understand what the key business drivers and use cases are for data and analytics. We look at how data and AI solutions can improve business operations and resolve business challenges.
- **Who will be using the platform?**
  We document the different types of personas that will access the platform, document their main use cases and how they will interact with data. This includes looking at how the platform may be used for data science and AI.
- **What types of data does the platform need to store?**
  We look at the sources of data to be included in the platform. For each source, we consider the data storage requirements and the data integration requirements. This identifies requirements such as whether there is a need to store non-structured or semi-structured data in the platform; whether there is a need for real-time data integration; whether data can be extracted incrementally and whether capabilities are required to integrate on premise and cloud data.
- **What is the organisation's technology strategy?**
  Does the organisation have a cloud adoption program? Are they expecting to replace key source systems in the foreseeable future?
- **What level of data governance and security is required?**
  What are the legal, regulatory or other requirements for management, privacy and security of data in the platform? This may also consider requirements for high-availability, backups and disaster recovery.

Current state analysis

Once the strategic drivers have been documented, we can assess the current solution against these requirements. Our assessment covers five main areas of capability:

Every customer has different needs from the assessment and we focus our attention on the areas that are most important to each customer's requirements. The following provides a guide to what may be looked at for each of the capability areas.

The platform architecture capability generally forms the major part of the assessment. This can encompass a number of architecture areas:

- **Technology Architecture**
  We assess the databases, integration tools, analytics tools and reporting tools that the current platform users. We consider factors such as how up to date the tools are, are the services on-premise or in the cloud, how well integrated they are and whether they will be sufficiently scalable, available and flexible to meet the business requirements.
- **Integration Architecture**
  We assess how data is integrated into the platform. We look at how frequently data is ingested, whether it is incremental or full loads, ingestion process performance, how easily new datasets can be ingested and the overall ingestion process design
- **Data Architecture**
  We assess how data is stored in the platform. If a data lake is implemented, then we look at how this is structured and how easy it is to access data. For data warehouse solutions, we look at the modelling methodology used, how well it meets business requirements and how well it has been implemented.
- **Consumption and Visualisation**
  We assess how data in the platform is made available to end users. Typically, this will be via reports and dashboards however this may also include data integration and sharing approaches. We look at whether there are visualisation standards applied – and followed – and whether reporting solutions are well designed and easy to use. We also consider whether the reporting solutions meets performance expectations. For data integration and sharing, we consider factors such as how easy it is to share data and how secure the data sharing and integration processes are.
- **Operations**
  We assess how well the current solution operates. For this, we consider factors such as how reliable processes are, how automated the solution is, how the systems is monitored, how exceptions are handled and resolved.

The data science assessment looks at the platform capabilities for data science and AI model development. This can cover three major areas:

- **Data**
  We assess whether the data required by data scientists and analysts is available for exploration and is easily accessible.
- **Tools**
  We assess the tools used for data science and how well they meet the

needs of the organisation. We look at how scalable, flexible and supportable they are and whether there are standard solutions applied.

- Operations
  We assess how data science solutions can be implemented in a production environment. This looks at how models are developed, deployed, managed and monitored.

The Ways of Working assessment looks at how the current data team operates. This generally covers three main areas: development, deployment and operations.

When looking at development, we consider whether standard and documented approaches exist for development and testing of data solutions and how well they are followed. We can also look at how backlogs of work are managed and how quickly new solutions can be developed, tested and deployed.

For deployment, we look at whether Devops principals are used and how well they are implemented. This can include looking at source control and branching policies, automated testing, the automation of deployment and release procedures.

The operations ways of working considers how production data and analytics solutions are managed. This includes monitoring of production integration processes, how exceptions are responded to and management of performance of the solution.

The People and Capabilities assessment looks at the skillset of the customer's data team and assesses them against the skills that would be required to support a future platform. This includes consideration of whether the team is of a sufficient size and whether training may be required on some of the new technologies that will be implemented.

The Governance, Security and Standards assessment looks how data is governed in the platform and how security of data is managed.

The governance of data can cover many aspects from data documentation, classification, lineage, data profiling and data quality. We look at the aspects that are important to the customer

Data security looks at how secure data is in the platform, whether there are different classifications of data managed and how access to data is managed. This may also consider how data is backed up and secured.

For each of these areas, we will assess the capabilities of the current platform against the business strategic requirements and perform a gap analysis to identify where capabilities in a particular area need to be improved.

Future state

On completion of the current state assessment, we provide a set of recommendations to deliver a platform and capabilities that will meet the requirements identified from the initial stage. This may be through uplift of existing solutions or by development of a new modern data platform. This is based on the gap analysis conducted during the current state assessment phase. We will document a proposed target architecture as well as any uplift that may be required in ways of working, staffing and governance. Our proposed solutions are based on our significant experience of delivering data and analytics capabilities for customers in addition to our close partnerships with Microsoft, Databricks and AWS which ensure that we are always on top of current technology trends and best practices.

Roadmap

The final stage of the assessment is to provide a roadmap to deliver the target state. The aim of the roadmap is to incrementally build the platform capabilities whilst delivering projects that provide real value to the business. We do this by mapping the business use cases and priorities to platform capabilities to identify those which can rapidly deliver value whilst building out the platform technical capabilities and implementing the recommendations.

A Fujitsu Data & AI Data and Analytics assessment has helped many organisations move to the next level in delivering value to business through data and AI. If you would like an assessment of your business data solutions, please contact a Fujitsu Data & AI specialist now.

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