Data Ocean Overview and Benefits

Table of Contents

- 1. Introduction
- 2. The Data Ocean Solution
  - 2.1 What is the Data Ocean?
  - 2.2 Justification for the Data Ocean
- 3. Advantages of the Data Ocean Solution
  - 3.1 Capitalizing on Data Analytics
  - 3.2 Enhanced Data Accessibility and Collaboration
  - 3.3 Improved Standardization, Data Quality and Governance
  - 3.4 Scalability and Agility
- 4. Business Benefits of the Data Ocean Solution
  - 4.1 Data-Driven Decision-Making
  - 4.2 Cost Efficiency and ROI
- 5. Conclusion:

1. Introduction

The purpose of this chapter is to provide an overview of the Data Ocean solution and highlight its justification, advantages, and benefits for the organisation.

With data playing an increasingly vital role in decision-making, the Data Ocean solution aims to provide a comprehensive approach that harnesses data analytics to yield improved business outcomes.

This chapter targets Data Owners, business decision-makers, and top management in order to enhance their understanding of the value proposition of the Data Ocean and its potential influence on the organization's overall success.

2. The Data Ocean Solution

Organizations continually strive to make the most of their data assets in today's data-driven environment in order to get insightful knowledge and influence business decisions. However, managing and making data accessible can frequently be difficult, particularly when data is compartmentalized, dispersed across numerous systems, and lacking in standardization.

DA & AI is introducing the Data Ocean, as a solution, to address these issues.

As data becomes increasingly critical for decision-making, the Data Ocean solution offers a comprehensive approach to capitalise on data analytics and drive better business outcomes.

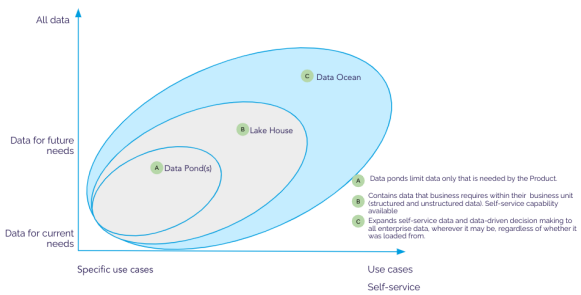
The goal of this chapter is to better understand the value proposition of the Data Ocean and how it could affect the success of the company for business decision makers and business leads.

2.1 What is the Data Ocean?

The Data Ocean represents a holistic and scalable data architecture designed to efficiently manage and leverage massive volumes of structured and unstructured data within the organization.

It serves as a central repository for all data sources, providing a unified and accessible platform - providing a streamlined and open platform for data-driven insights and decision-making - a single version of the truth (SVOT).

The Data Ocean represents a paradigm shift in data management, enabling the organization to expand self-service data and data-driven decision-making capabilities to encompass all enterprise data, in a comprehensive data ecosystem that allows for the central governance, management, and utilization of data assets across the entire organization.



Data Ponds, Data Lakes and Data Ocean

What will we achieve:

- Single converged cloud capability
- Self service with access to transformed and untransformed source data
- Single place for Data & Machine Learning use cases
- Enable vertical and horizontal use of data (GBU, Industry, R&I)
- Cost effective and simpler architecture - easier to manage and maintain

This will address a number of challenges:

- Remove duplicates and silos
- Enable local autonomy and global sharing
- Efficiency of data ingestion - ingest once and use multiple times
- Shareable base by authorisation
- Standardise business definitions (data model)

- Foster data quality continuous improvements

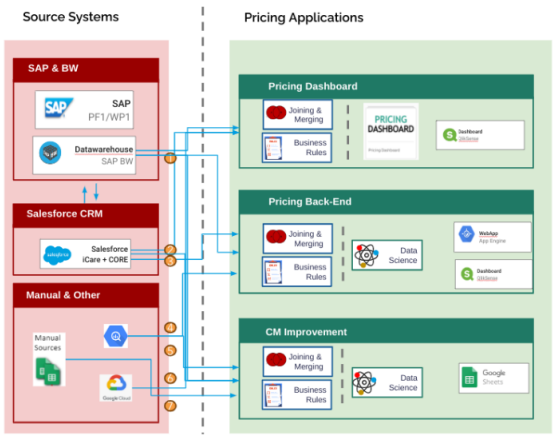
Key highlights

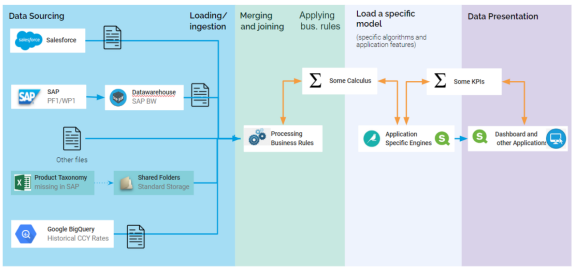
- Data Ocean answers to our vision and key challenges faced today
- Data Governed centrally, enabling vertical and horizontal use of data (GBU, Industry, R&I) + local autonomy and global sharing
- Self-Service Data accessible by the whole company, supporting our vision of a data-driven company
- Enable standardization of business definitions, fostering Data Quality

2.2 Justification for the Data Ocean

The Data Ocean solution addresses the evolving data landscape and the increasing need for organizations to harness the power of data analytics.

With the exponential growth of data sources and formats, traditional data management approaches have proven to be insufficient. The Data Ocean provides a strategic response to these challenges by offering a flexible and scalable infrastructure that can accommodate diverse data types, volumes, and velocity and help solve the problems of the past.





- Different Applications are connected directly to the different source systems.
- The same data is repeatedly extracted, usually with varied periodicities and targeted filters, resulting in redundancy, incoherence, and inefficient use of resources both at the source and at the destination.
- Data transformation and **business logic is replicated** in every application, possibly following some small different approaches, leading to **data quality and consistency issues.**
- Using BW as the data foundation for Products has proven to **lac k flexibility & agility**, causing delays on PI delivery and GBU frustration.
- Implementing all business logic in BI Tools pushes that platforms to its limits and causing **issues on performance and maintainability**.
- Investments done in data modeling for specific BI Tools are **not reusable** in others or even in Data Science Tools, slowing down AI rollouts.

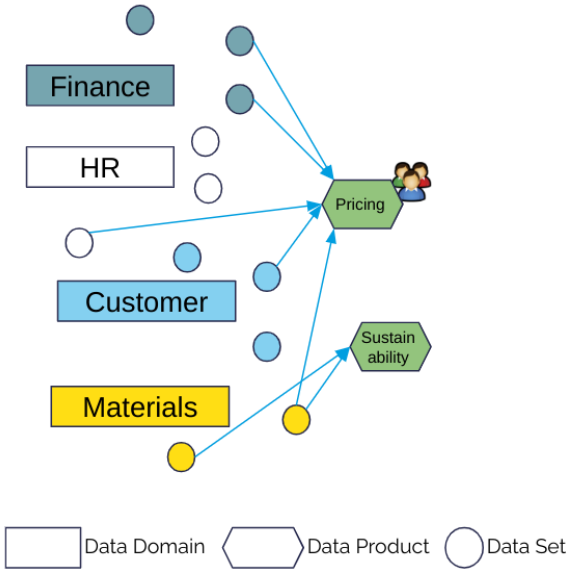
3. Advantages of the Data Ocean Solution

3.1 Capitalizing on Data Analytics

The Data Ocean empowers the business and its stakeholders to extract valuable insights from their data assets through advanced analytics techniques.

- By consolidating data from various sources and enabling efficient data processing and analysis
- By improving Self-Service Data Access, capitalising on the BI Tools, stakeholders can explore and retrieve data relevant to their needs without relying on specialized technical resources. This democratization of data empowers stakeholders to make informed decisions based on timely and accurate information, fostering a data-driven culture across the organization.
- By enhancing Data Discovery and Exploration of the data assets. Data catalogs, metadata descriptions, and information on data lineage offer useful details on the creation and application of data, facilitating data exploration and analysis. The data catalog also makes data traceability easier, promoting transparency and regulatory compliance.
- By supporting Advanced Analytics and Machine Learning initiatives, providing a comprehensive ecosystem for data scientists and analys

In summary, The data ocean enables data-driven decision-making, unleashes the full potential of data analytics, and promotes a culture of data exploration and creativity.



Domain-Driven Architecture, match with Solvay Atom transformation and foster data culture and accountability

Purpose

- Domains
  - **Domains are accountable** to create and serve domain datasets for **consumption with proper quality.**
  - Domain **data meets Standards** (e.g: discoverable; addressable, trustworthy,...)
- Data Products
  - Data Product owner defines **Vision**, **roadmap, lifecycle of data**. (e.g Schema Changes) and adapting data to the needs
  - **Data Product owner focus on consumer satisfaction,** and **pushes for Domains** to have **good quality data.**
- Data Team
  - focus **enhance/ monitoring/alerting, automation** the Platform

Value

- Centers data acquisition, processing, and serving with domain experts
- **Aligns architecture** with organizational structure
- Architecture **oriented around domains and products**
- **Decrease common data pain-point** - Data orientation and Cleansing
- **Support the emergence data product focus**

3.2 Enhanced Data Accessibility and Collaboration

The Data Ocean facilitates seamless data access and collaboration across the organization. Data Owners can easily share and publish their domain-specific datasets, making them readily available to other teams and stakeholders. This democratized access to data promotes cross-functional collaboration, accelerates insights discovery, and encourages a self-service data culture (Figure 3).

3.3 Improved Standardization, Data Quality and Governance

The Data Ocean improves central governance and management of data, enabling the organization to establish and enforce data governance policies consistency and establish robust data quality measures and governance frameworks.

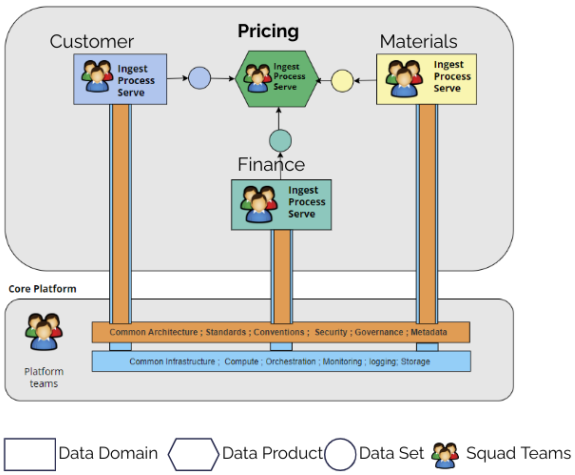
The solution enables Data Owners to define and enforce data standards, ensuring data accuracy, consistency, and compliance, by promoting standardized business definitions and data elements This standardization also improves data sharing and collaboration, fostering a common "language" for data-driven initiatives.

3.4 Scalability and Agility

The Data Ocean empowers teams with the scalability and agility needed to adapt to changing business requirements and rapidly onboard new datasets and data sources. It enables the organization to accommodate structural changes at the operational level while seamlessly managing the growth of data volumes. Additionally, the Data Ocean ensures the scalability of analytics capabilities, allowing teams to leverage evolving data landscapes and support mergers and acquisitions without compromising performance.

Architectural alignment between Core Data Platform supporting Data Domains and Data Product

Domain with cross-functional teams supporting Data Products



- Alight in Atom model and Agile concepts and Data Governance.
- **Decouples domains so they can evolve independently..**
- Creates data domain focused teams
- **Product teams focus on build data products from integration across data domains**
- Gives product domains greater autonomy in their backlog
- Aligns Data and Product Source/target Experts
- **Aligns architecture on a Core Platform**

4. Business Benefits of the Data Ocean Solution

4.1 Data-Driven Decision-Making

By leveraging the Data Ocean, organizations can make informed decisions based on reliable and timely data insights. The solution enables Business Decision Makers to access comprehensive and accurate data, providing a holistic view of the organization's operations, customers, and market trends. This data-driven decision-making approach enhances business agility, accelerates innovation, and supports strategic planning.

4.2 Cost Efficiency and ROI

The Data Ocean promotes cost efficiency by eliminating data silos, reducing data duplication, and optimizing data storage and processing. Through streamlined data management and improved resource utilization, organizations can achieve a higher return on their data investments. The centralized infrastructure and standardized processes also reduce maintenance and development costs associated with managing disparate data systems.

5. Conclusion:

The Data Ocean solution presents a transformative opportunity for the organization to leverage data analytics and drive better business outcomes. By providing a high-level overview and highlighting the benefits of the Data Ocean, it offers insights into how data analytics can be harnessed to unlock new opportunities, make informed decisions, and achieve improved business outcomes. Through this comprehensive overview, the chapter equips stakeholders with the knowledge and understanding necessary to assess the advantages of integrating the Data Ocean into their organizational strategy.