

# Enabling business-centric data platforms in financial services - Part 1: Data mesh shows the way

Banking, Financial Services and Insurance



# Abstract

In the banking, financial services, and insurance (BFSI) industry today, data fuels business growth and creates new revenue streams. Data is the pivot around which customer experience, risk management, and operational efficiency revolve. The modernization of legacy data platforms is thus increasingly at the core of digital transformation initiatives in most BFSI firms. Legacy data platforms, however, lack the adaptability to meet evolving business requirements that demand the rapid and timely supply of quality data with well-defined ownership. With the proliferation of artificial intelligence (AI) and machine learning (ML) technologies in the data analytics function of most BFSI firms, it becomes even more critical to modernizing data platforms. This paper, the first of a two-part series, highlights how embracing data mesh architecture can address key challenges of legacy data platforms and help BFSI firms to move toward a 'data as a product' mindset.

## Data: The true differentiator in financial services

BFSI organizations today are differentiated on one important aspect—how they leverage internal and external data to reap business benefits, enhance customer experience, and gain a competitive edge. Customer service can be taken to a whole new level with unprecedented hyper-personalization. In addition, data can fuel enormous business growth for banks and insurers if its full potential is unlocked and reimagines functions like sales, marketing, and risk management besides significantly enhancing employee productivity. Going forward, the ability to effectively use data assets will separate the leaders from the pack in the financial services industry.

Achieving mastery over data is thus becoming business critical in the financial services industry and will require BFSI firms to establish a robust data and analytics platform. However, BFSI firms, including building societies, follow traditional data management practices that do not meet the needs of agility that the present business context demands. Existing centralized data platforms lack business domain ownership and agility and hence fail to support the design of new, innovative offerings that are critical to retaining customer mindshare in an increasingly digital landscape.

Central data platforms are typically built using monolithic architecture and have gaps in business and technology areas. Consequently, the cost and effort required to implement a change are huge. Enterprise data consolidation often takes precedence over business domain-centric data platforms, restricting the central data platform's ability to cater to evolving use-cases. The other key concern for large financial institutions and insurers is people and processes. The central data platform team typically owns data platforms, but the actual data is owned by teams that maintain the systems of record (SoR). The SoR teams focus on the operational systems with little or no visibility once the data moves to the central data platform. On the other hand, the data consumers rely on the central data team to address data challenges. However, central teams lack the required business domain knowledge and ability to validate the data or provide new data points. This disconnect between the central team and the SoR team poses other challenges like the lack of data governance and metadata management, leading to compromised data quality.

Data mesh is a new architecture pattern that can help BFSI firms address these challenges. The data mesh architecture envisages a paradigm shift for data platforms—instead of a central data platform, interconnected but well-placed business domain-centric data platforms are set up, which help establish true ownership and governance of data. Consequently, data can be treated as a product for consumption, leading to improved business agility and better data currency, in turn empowering BFSI organizations to enhance customer centricity and competitiveness.

# Data mesh to the rescue

Data mesh is founded on the premise of decentralization and distribution of responsibility among the people who are closest to the data. This will supply quality data to consumers and instill the ‘data as a product’ paradigm. Meeting the ever-changing business requirements and improving data governance too will become easier. For BFSI firms, moving to the data mesh architecture is a significant shift, which will entail both business and IT changes. Firms will need to spearhead a change in organizational mindset, reimagine data platforms, and define a target operating model with appropriate governance mechanisms.

## Organizational mindset shift

Embracing the data mesh architecture will mandate business domains to own and manage the data for their operational, analytical, and reporting systems. This is the key change that must happen at business domain levels and will require buy-in from business stakeholders before embarking on implementation. This change will also demand a re-alignment in organizational structure and allied processes—how data governance, metadata management, data quality, and data security are to be handled in the new architecture. For a smooth transition, banks must opt for an implementation method where the central IT team creates the foundation for data mesh. Subsequently, the business domain-centric IT team can independently operate and own the platform.

## Data platform

A data mesh architecture requires a substantially different data platform from those currently in use in BFSI firms, which are typically built on a central data lake or with an enterprise data warehouse approach. Figure 1 depicts a conceptual view of the data mesh architecture for BFSI organizations.

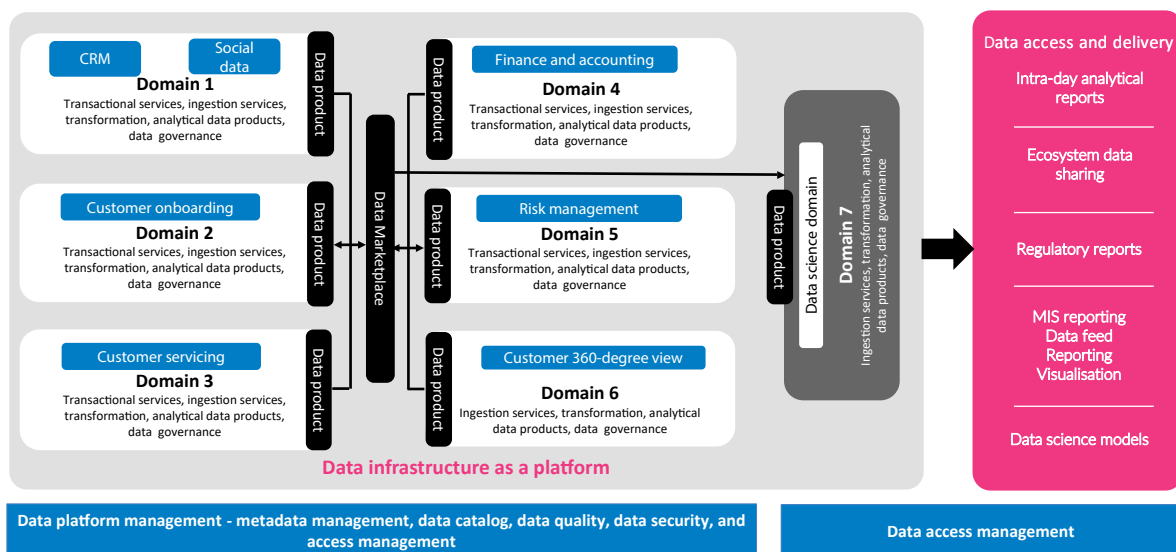


Figure 1: High-level architecture of the data mesh concept

The platform is divided into various business domains of BFSI organizations like customer onboarding, customer service, finance, accounting, risk management, among others. Each platform must cover the end-to-end value chain from ingestion of data from business domain-centric applications to data processing, storage, and consumption in the form of data products. Data products can be cross-leveraged by other business domains like finance, accounting, and risk functions. The architecture must include a data marketplace, which is critical for secure and easy dissemination of data across the organization.

### Target operating model

An important milestone in developing a data mesh-oriented platform is defining and implementing an appropriate data governance strategy and operating model. Figure 2 depicts a high-level target operating model for a data platform aligned with data mesh architecture that BFSI firms can adopt. Business domain data teams must take ownership and control of data platforms while collaborating with the enterprise governance team to manage central components (like the data marketplace) and ensure compliance with standards and best practices. The target operating model must be further expanded, with roles and responsibilities divided between different actors at the banking business domain, functional, and central levels, which will lead to effective governance.

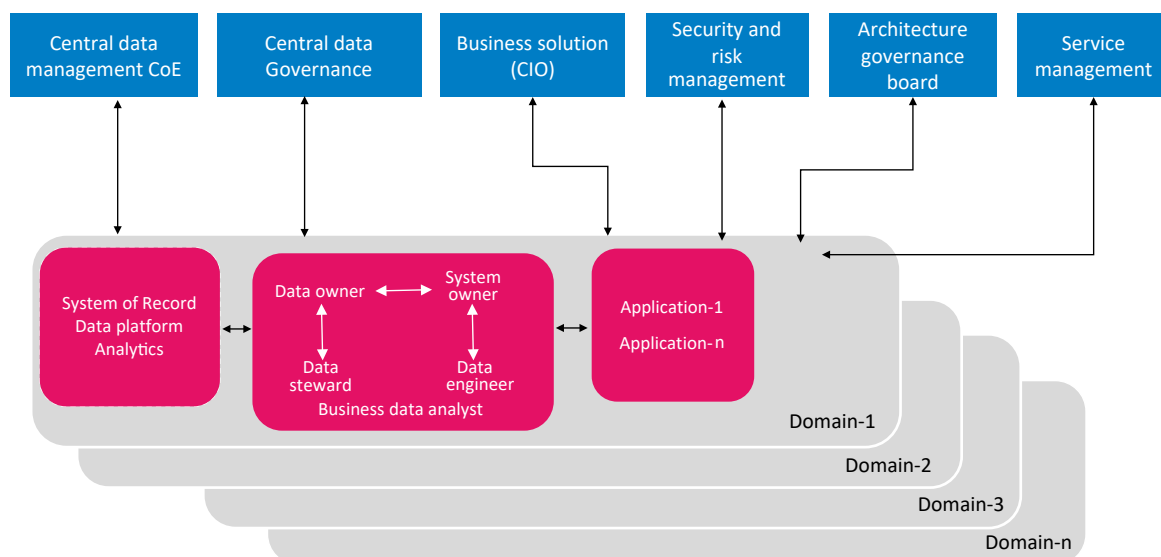


Figure 2: Target operating model of a data platform aligned with a data mesh architecture

## New development or legacy modernization approach

Once the target operating model is defined, the next step is the actual implementation of the data mesh architecture. There are two approaches that BFSI firms can choose from:

- New or greenfield development of data platform: This approach gives BFSI firms flexibility in implementing core data mesh principles. However, this approach will require significant effort and time to implement as reuse of the existing data platform may not be feasible and may necessitate developing everything from scratch. This approach may suit financial institutions that plan to retire the existing data platform and redevelop it afresh.

- Modernization of existing legacy data platform: This approach is the most viable option for BFSI organizations, given the substantial investments already made on existing data platforms. Rather than retiring the existing platform and starting again from scratch, BFSI firms can transform the platform using the data mesh architecture.

Though the decision on the transformation approach will depend on the individual organizational strategy, in our view, the second approach will be more feasible for most BFSI firms. Modernizing the existing platform by leveraging the data mesh architecture will enable the reuse of several components. A phased transition to the new architecture, which will deliver benefits incrementally, would be more pragmatic than a big bang approach.

## A new beginning

The data mesh architecture is at a tipping point—many organizations are exploring the concept as they define their long-term strategies. It will help revamp the way data is managed and leveraged by BFSI firms. However, focused effort is required to transform existing data platforms, which have the potential to unlock enormous value for BFSI firms. In our view, it is well worth the effort for banks and insurers to make the transition to data mesh architecture, given its ability to establish an innovation ecosystem and drive data-driven business decisions, in turn unlocking exponential business growth.

## About the authors

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Vishal Singh is the sales director and head of Chief Data Officer Initiatives, UK and Europe, in the Banking, Financial Services, and Insurance (BFSI) business unit at TCS. He has over 21 years of experience working with global BFSI clients across multiple geographies. In his current role, Vishal is instrumental in bringing innovation and driving solution-led sales. He played a key role in building the CDO AI ML Lab in London, which is an ecosystem for co-creating comprehensive data science solutions for global financial services organizations. He has led data-driven transformation initiatives to generate business value. In his earlier role, he managed strategic relationships with key clients in the UK and Ireland.

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Prab Pitchandi is the global head of Chief Data Officer Initiatives in the Banking, Financial Services, and Insurance (BFSI) business unit at TCS. He has over 25 years of experience in the BFSI space. In his current role, he works with financial services institutions to enable them to become data-driven organizations, create an automated and contextual data foundation, and derive value from data assets. He has developed many innovative solutions, enabling new business models and reimagining of business processes. In his previous role as head of Capital Markets Consulting and Solutions, he specialized in capital markets and risk management. He has led many front-to-back transformations and regulatory programs for leading Wall Street firms and has been involved in setting up new business functions in global banks.

# Awards and accolades



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