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Data platforms in 2024

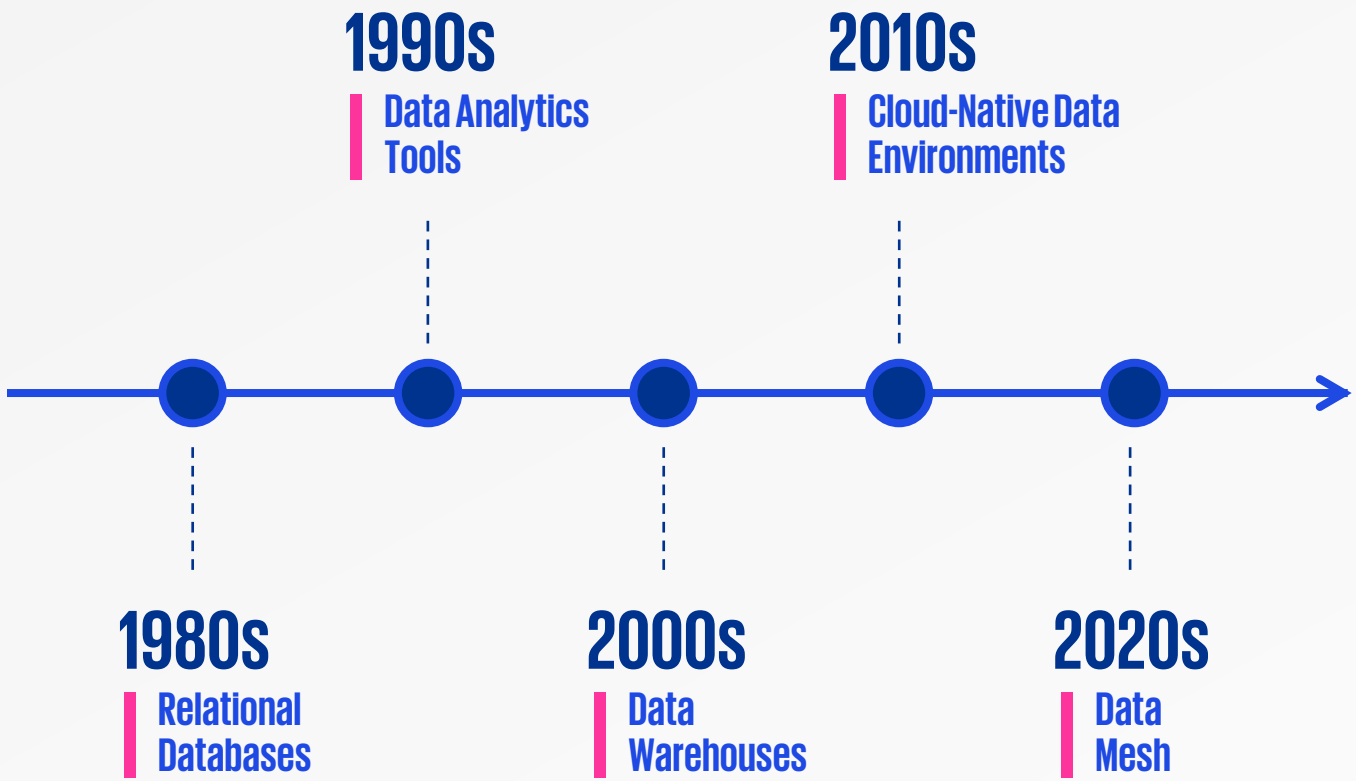
What options make sense in the age of Data Mesh?

Data-driven decision making

Data-driven decision making is a core ambition for most modern organisations to effectively understand current performance, identify risk, and plan for the future. Yet many organisations remain overwhelmed by the amount of data they have. Despite investing in many data platforms and technologies, business benefits haven't always eventuated. Getting rapid access to the right data, and in a form where it can be quickly analysed and interpreted, is still a challenge.

So, do organisations need to invest in new data platforms to create business-changing benefits? Do cloud native solutions provide the best option? Or are data meshes the right way to move forward?

The evolution of data platforms



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Data warehouses and data lakes - are these legacy technologies?

Even with initiatives to consolidate systems and to move applications on to fewer platforms with common standards, most organisations still suffer from highly complex environments with data stored across many disparate systems.

The challenges of disparate sources of data have traditionally been addressed by implementing technologies like data warehouses and data lakes. But these solutions have created their own challenges. Many data warehouse technologies have become legacies in their own right, with complex upgrade paths, expensive licensing, and scarce specialist resources. The technologies that should have created agile and responsive data service environments have often created new bottlenecks and obstacles to improving organisational performance.

Over the past few years, new scalable ‘cloud native’ data solutions have been created to leverage the benefits of the cloud. The ability to respond quickly to changes and to scale based on growth or introducing more data sources allows these ‘cloud native’ solutions to offer a real advantage of existing on-prem data warehouses.

For many organisations, the challenge is how to justify such a change. Like many cases for change that relate to ‘technology infrastructure’, the value that can be created can be hard to articulate (although the related problems that could be resolved remain widespread and well understood). The story of another essential system that will be a ‘game changer’ has been told many times, often disappointing with limited benefits.

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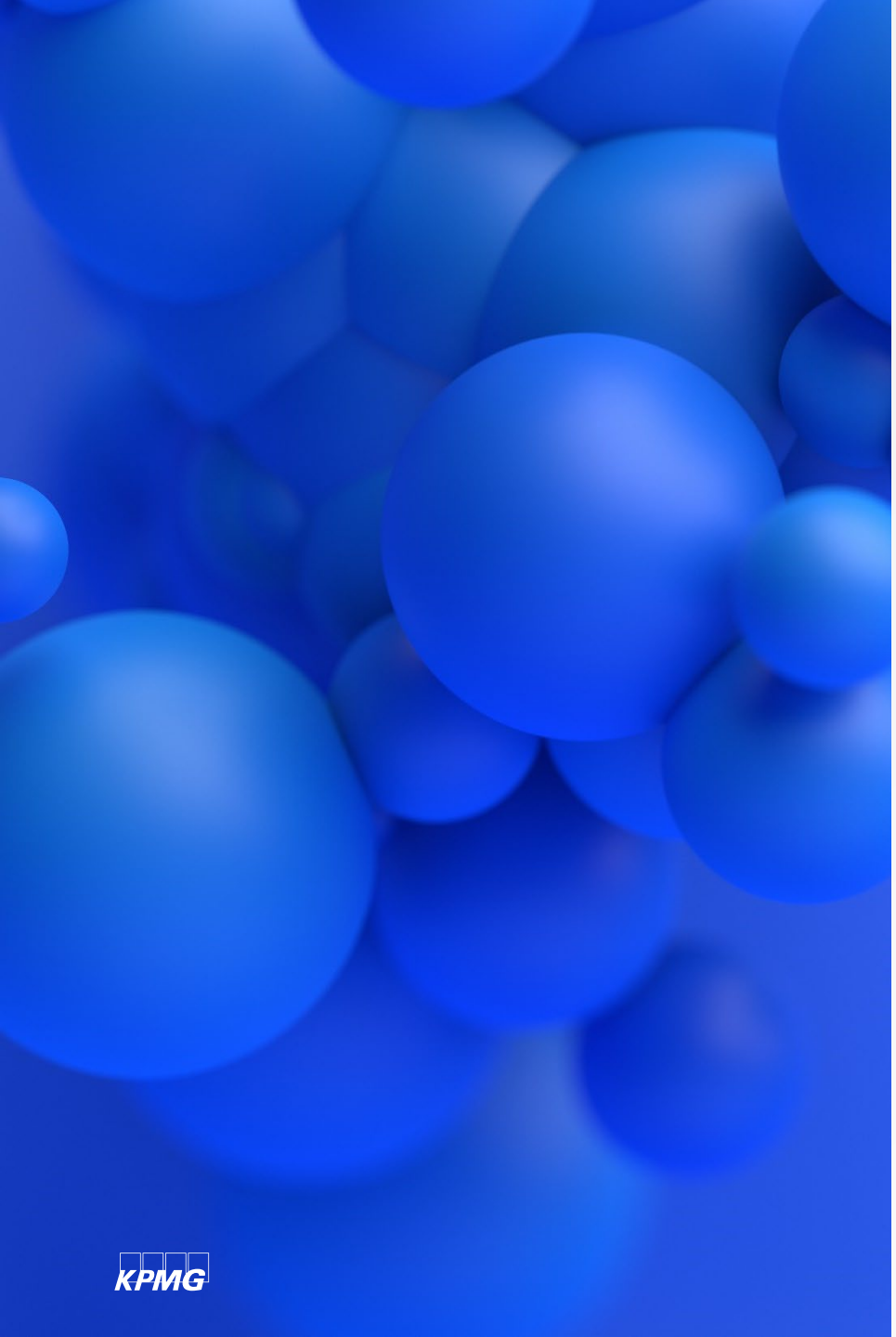

Are cloud-native data solutions the answer?

Many organisations have chosen to address data warehouses and data lake challenges by moving towards cloud-native database-as-a-service environments. These provide a single secure platform for an organisation to store, manage, and analyse its data using a range of data analysis and manipulation tools.

At face value, these environments appeal because they offer features like separating the storage and processing of data, and allow for easy sharing and collaboration in data analysis. They are designed to meet the needs of large and growing businesses with advanced controls to ensure regulatory compliance.

These cloud-native environments often have thriving communities of developers and users and are less reliant on technologists with highly specialist skills. For example, the Snowflake community actively contributes to the platform's knowledge base, sharing best practices and providing support to one another. As a result, Snowflake users have access to a wealth of resources, including blogs, forums, and social media groups, that help them make the most of the platform's capabilities.

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The benefits of cloud-native data solutions

Cloud-native data environments offer several benefits over traditional on-premises data environments. Some of the key benefits of Snowflake and other cloud-native data environments include:

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What about Data Mesh?

Data mesh is a relatively new concept in the world of data management and integration. It is a data architecture approach that emphasises the free flow of data between different systems and applications within an organisation. Data mesh aims to enable data to be shared and accessed across different teams and departments without creating data silos or relying on centralised data repositories.

In a data mesh architecture, data is treated as a product that can be shared and consumed by different teams, rather than being locked away in separate systems and databases. This is achieved through the use of APIs, event-driven architecture, microservices, and other technologies that enable data to be exchanged and consumed in a decentralised way.

One of the key benefits of data mesh is that it enables organisations to be more agile and responsive to changing business needs. By breaking down data silos and enabling data to flow freely between different systems and applications, organisations can make better use of their data and respond more quickly to changing market conditions and customer needs.

However, implementing a data mesh architecture can be complex and requires careful planning and coordination between different teams and departments.

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What about Data Mesh?

A data mesh architecture offers several benefits in addition to those embedded in a cloud-native data solution. Some of the key differentiating benefits of a data mesh architecture include:

Decentralisation

Data is decentralised, which means that it is distributed across different systems and applications. This makes it easier for different teams and departments within an organisation to access and use the data they need.

Agility

Organisations can be more agile and responsive to changing business needs using a data mesh. By breaking down data silos and enabling data to flow freely between different systems and applications, organisations can make better use of their data and respond more quickly to changing market conditions and customer needs.

Flexibility

A data mesh architecture enables data to be exchanged and consumed in a decentralised way. This makes it easier for organisations to integrate new systems and applications, and to experiment with different data sets and analysis techniques.

Cost-effectiveness

This approach reduces the need for expensive data warehouses and other centralised data repositories. By enabling data to be stored and accessed in a decentralised way, organisations can make better use of their existing infrastructure and resources.

Better data quality

This technology enables different teams and departments to collaborate and share data more effectively. This results in fewer errors and inconsistencies in the data, which then improves the accuracy of analysis and effectiveness of decision-making.

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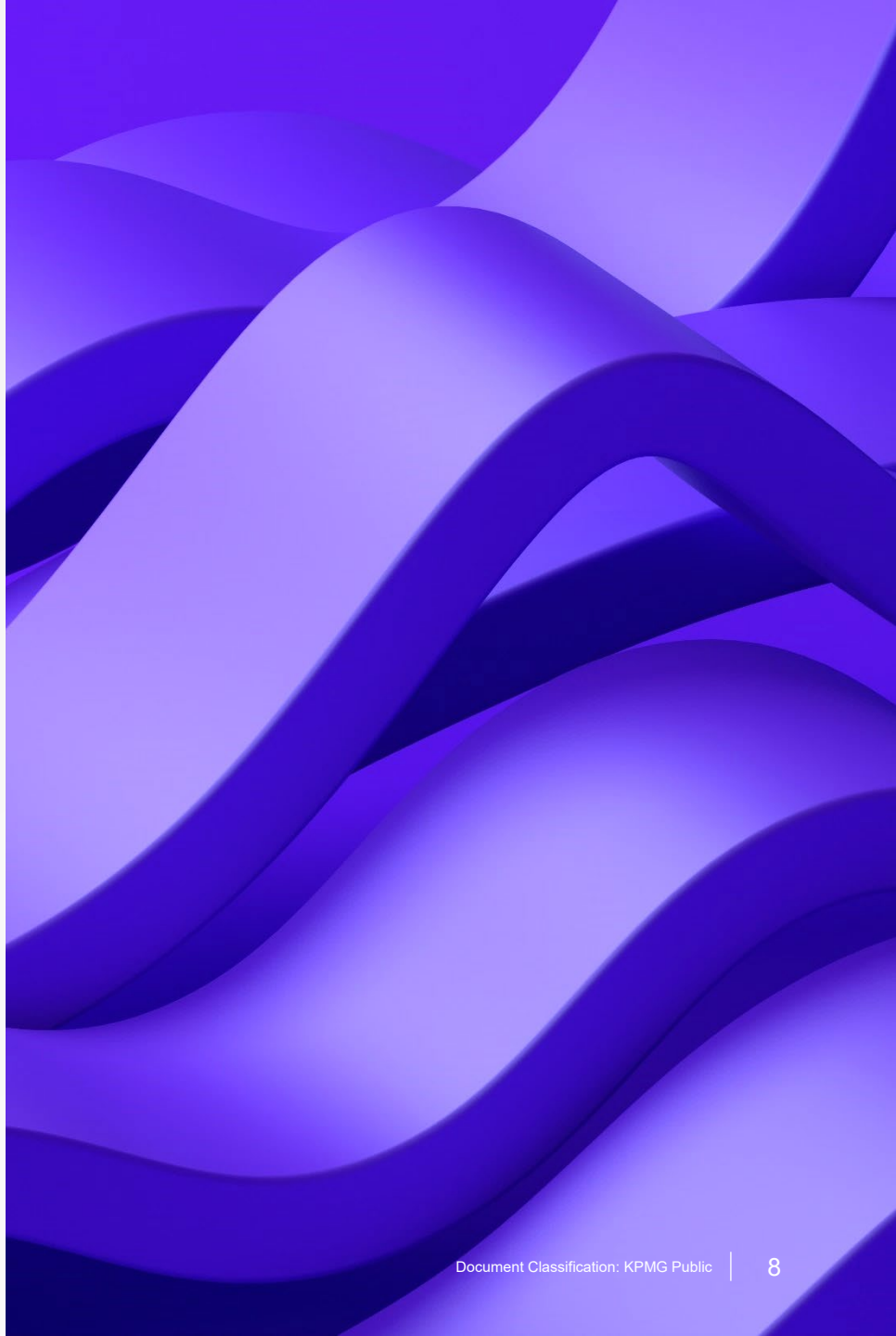
Evaluating organisational data platform needs

If an organisation is primarily focused on managing and analysing structured data, a cloud-native data solution may be a good choice. These solutions are designed to handle large amounts of structured data, and offer several benefits including scalability, agility, cost-effectiveness, and security.

On the other hand, if an organisation wants to break down data silos and enable data to flow freely between different systems and applications, a data mesh architecture may be a better choice.

It's important for organisations to carefully assess their data management challenges and goals before making a decision. In some cases, it may be possible to implement both a cloud-native data solution and a data mesh architecture, depending on the specific needs of different teams and departments within the organisation.

Ultimately, the most effective data management strategy will depend on a range of factors, including the organisation's size, industry, data needs, and IT infrastructure. Organisations should work with experienced data management professionals to develop a customised strategy that meets their unique needs and goals.



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