Data mesh: How can the insurance sector protect their future?

Exploring how the data mesh aligns to insurance organisations' strategy.
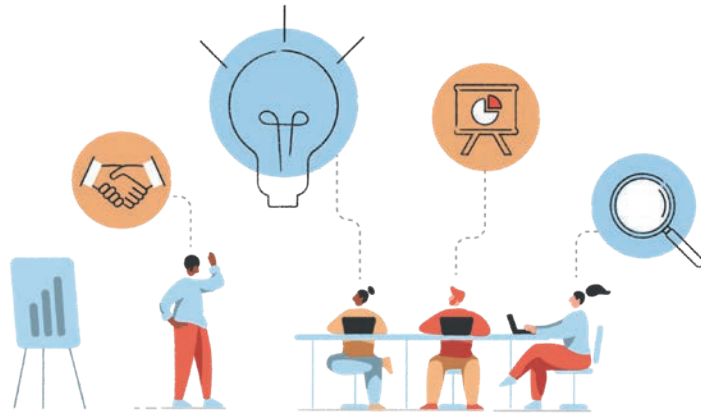
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> " **...data mesh can help organisations succeed in their digital transformation.** "

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Unlock extraordinary

What is the insurance sector up against?

Data is central to digital transformation in the insurance industry. In this whitepaper, we look at the changes the industry is facing coming out of the pandemic, how it has influenced insurers' strategic objectives, and why the paradigm shift to data mesh can help organisations succeed in their digital transformation.

It has been suggested that the pandemic has seen businesses accelerate digital transformation by the equivalent of seven years*. The way consumers interact with insurance companies has been disrupted and insurers need to adapt their service levels, channels, and products to meet these expectations.

Other industries, such as banking and energy providers, have set the bar high for service levels. In a single banking app, you can now apply for a range of different products, from home insurance, overdrafts, new

accounts, and credit cards to receiving an Agreement in Principle in less than 10 minutes for a mortgage.

Consumers therefore have a low tolerance for poor service and won't hesitate to change providers to someone who can live up to what they now see as 'the new normal.' Similarly, there is an expectation of data being used to add value to the customer by offering personalised products and improved customer service.

To use the banking app example, you can now request to interact with a virtual agent and you will receive a notification of when they are available, prompting you to log back into the app. This saves time, battery level, and removes the frustration of 'waiting' in line in a phone queue, as the consumer is released from the 'waiting' interaction and can continue to use their phone normally whilst they wait.

To add to this, the insurance sector is seeing a wave of InsurTech start-ups who offer a fully digital service and provide products at a much cheaper rate because of this. Many of these products are targeted at all levels of the insurance value chain and, unhampered by legacy infrastructure and operating models, can adapt and respond to customer needs at pace.

* https://www.consultancy.uk/news/26372/covid-19-has-accelerated-digital-transformation-by-seven-years

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How can the insurance sector solve some of these problems?

To help the sector overcome these challenges, we've drawn advice from our consultants who have worked on building out some of the 'new normal' solutions that you see on the market today.

1 Shift towards a product mindset

This means ensuring you have a customer-centric mindset, placing the customer at the heart of everything you do. For example, are you including all the right people (such as brokers) when building out or improving your digital solutions? Are you interacting with consumers and testing solutions with them before you release? Are you focusing on making the changes that consumers really care about?

TIPS FOR DOING IT WELL
To do this, organisations need to make customer data accessible rather than locking it away in an ungoverned silo, enabling business users to create great insights from the data. This is easier said than done, but organisations can get out of siloed ways of working through a combination of top-down strategy and bottom-up literacy. This involves working with the business stakeholders to educate them on a data strategy, implementing data governance technology and operating models within business domains.

2 Provide personalised offerings

Insurers are transforming their traditional products to more diversified offerings tailored to consumer needs. There is a general sense that consumers pay a lot of money for insurance with very little value in return should the risk not materialise. Consumers understand they are covered but are looking to get more out of their cover outside of their core products. Offering value-adds, such as a courtesy car should things go wrong or bundling products to make them more cost-effective, is a great way to differentiate your organisation and make you stand out from the competition. Fast access to data by the business to make the right complementary offerings at the right time is key.

TIPS FOR DOING IT WELL
We recommend that organisations adopt DataOps practices, which are broadly embedded in other areas of technology product development. DataOps encourages incremental delivery of value to customers with short feedback loops that increase user buy-in.

It enables proactive monitoring of change to data pipelines to prevent downstream failures and ensures that change can be delivered to pipelines quickly and efficiently. Automation and templatization of data pipelines and deployment of code reduce the load on product teams, allowing them to focus on what matters most to the customer and be more responsive. To deliver with speed and accuracy, the DataOps culture automates testing and the use of CI/CD pipelines, allowing analytics teams to confidently deliver new business insights at pace. Minimising response times to key decision-makers is imperative to earning their trust.

Any insurance business' key asset is data. Being able to trust in that data allows for a consistent view of reality and the ability to become a truly data-driven business. By enabling your teams to deliver quickly and robustly, DataOps can provide a vital framework for achieving true personalised offerings for customers.

Learn more in our pocket guide "An introduction to DataOps"

3 Provide a digital experience through omnichannel

Isn't it frustrating giving your information to a provider repeatedly and feeling as though you aren't getting the best experience as your information is not linked up on their end? A key focus area is providing a seamless customer service across all channels, from the point of quote to bind and claims. Capturing consumer data the first time and ensuring that data is available and integrated across service channels is key.

TIPS FOR DOING IT WELL
The root cause of the challenge is often existing data and technology. These legacy systems don't reflect the modern need and fall short of being able to deliver a single view of the customer and the personalisation that follows from it. "But I'm investing in replacing my legacy systems; surely this will help?" Yes, but if those systems remain siloed and difficult to integrate with, problems will remain. Capabilities with poor data feedback loops will leave you unable to 'listen' to how

your customers feel about their interactions with you. You need to focus on how your technology helps you connect the customer experience across your business and prioritise tech that enables you to do that.

You may also be aware of a low perceived value of data within your business, often manifested by no clear business owner for data or no data strategy. This can make achieving your task even more difficult. Enterprise architecture will be a key ally in this conversation, so building a strong relationship between IT, marketing, and digital is vital in getting your journey underway.

These problems are all exacerbated by the perceived value held in underperforming legacy tech. For example, there may be an emotional resistance to change: large sums on money and hundreds of training hours may have been spent on a certain asset, creating a desire to 'sweat the asset', even if it's not quite right for current strategic aims. Defining the business outcomes and agreeing them across the organisation before deciding on technology is key in overcoming pre-existing bias towards legacy software.

4 Foster an innovative culture

Insurers operate in a highly regulated environment, making it difficult to achieve the culture and mindset to do the things that technology allows. However, this is vital to achieve the change that technology enables; technology is only part of the solution and won't solve the whole problem if ways of working don't change too.

TIPS FOR DOING IT WELL
Identify the "flow of value": Value streams represent the sequence of end-to-end steps or activities an enterprise follows to deliver value to its customer. Doing so highlights efficiencies and inefficiencies, delays, and bottlenecks throughout the process. Value streams also illustrate the impact that flow, or the lack of it, has on the people who do all of the work. Identify the value stream that will impact your 'product' or that your product is a part of.

Initiate cultural change: As part of the top-down transformation approach, senior stakeholders perform a critical role as visionaries: setting the strategic direction, organisational vision, and driving a collaborative culture. They can do this by empowering teams, encouraging experimentation, and providing training and development opportunities. Senior leaders perform less day-to-day staff management activities and enable cross-functional collaboration by removing obstacles and by acting as a facilitator for communication.

Implement training: Once a cross-functional team focusing on a product has been identified, ways of working need to be adapted. Specialist Agile training, such as Kanban or Scrum, will provide the accelerated learning required.

> **Data mesh is considered to be the next big architectural paradigm shift…**

Underpinning any transformation is a data management capability

As you read the above, you may have noticed a recurring theme: data. Using data poorly is often the cause of many problems, and using it well is often the driver that gives disruptors a competitive edge.

Data has always been central to the insurance business and the leaders in the industry that we have worked with have focused on their data models. Many insurance organisations have attempted implementing data platforms that focus on building monolithic structures with ambitions to solve all possible use cases, resulting in under-utilised data lakes and warehouses. They have taken years to build and they have found it difficult to calculate value delivered.

That's where data mesh presents an opportunity. Data mesh is considered to be the next big architectural paradigm shift in this space, aimed at achieving greater speed, agility, quality, and value.

What is data mesh and why is it important?
The data mesh is not a single technology or a wholesale replacement for data warehouses and lakes; it is a way of using such technologies in a decentralised and value-driven way.

It requires a "macro-architecture" and a new mode of thinking, enabling data & analytics to be delivered at pace and scale in a constantly evolving landscape. A bit like a "microservices"

> **…insurers need a data architecture that embraces speed, ease of use, and collaboration across teams**

approach to data & analytics, the data mesh federates the delivery and architecture of data "products" to business domains. Business domains lead digital transformation using self-serve infrastructure and platform services, and there is a much more proactive mode of governance.

Why data mesh for insurance?
As described above, a new generation of customers expect digital, multi-channel services, highly tailored to their individual needs. These services are expected to share data to provide a differentiated experience to consumers to stay competitive and updates should be incremental, customer-driven, and focused on value.

Thus, insurers need a data architecture that embraces speed, ease of use, and collaboration across teams. This is exactly what the data mesh architecture embraces through its four core principles: Data as a Product, Decentralised Domain Ownership, Self-Serve Infrastructure, and Federated Computational Governance.
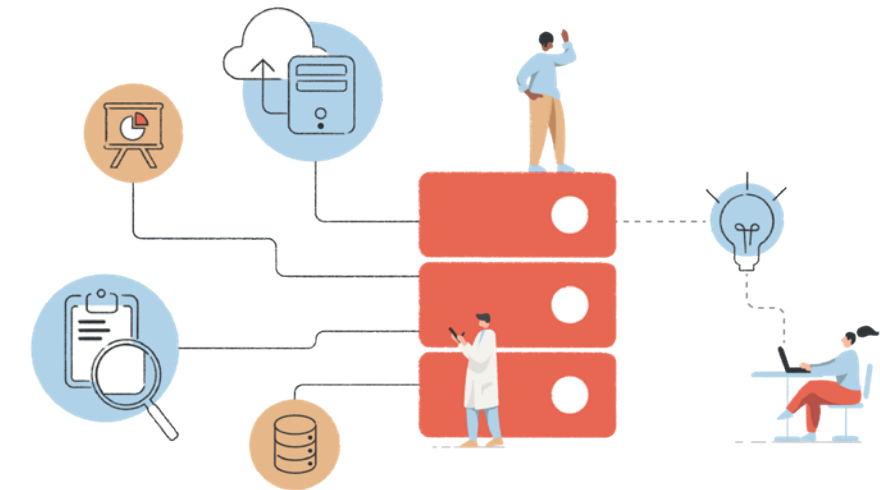
How do the data mesh principles align to the strategic direction of insurance firms?

Insurance strategic objectives

Break down silos
Digital experiences and omnichannel sales require seamless integration across channels, from quote to claim. The data mesh enables much better integration between domains by ensuring that all data products are owned by the business domains that understand the data.

Customer centricity
Insurers are adopting a customer-centric mindset, taking lessons from other industries that focus on frequent interactions with consumers. The data mesh enables this type of thinking by allowing the architecture to be composed of interactive products rather than monolithic approaches to data.

Agility
Providing personalised services requires constant experimentation and invention, such as integrating health or other data at short notice and building new solutions with limited friction. The data mesh enables this by decentralising the data architecture so that each data product can be individually optimised or amended to take advantage of new opportunities or respond to new analytical needs.

Innovation culture
As insurers operate in a highly regulated environment, changing culture and innovating can be difficult. Other industries have succeeded in fostering innovation by changing their approach to governance from prevention to enablement; data mesh embraces this notion.

Data mesh principles

Decentralised domain ownership
Ownership of data is decentralised to business domains bounded by organisational context, ensuring that deep domain knowledge is leveraged for every data product.

Data as a product
Data is treated as a technology-agnostic, universally comprehended, highly interoperable, and easily discoverable 'product' that can be used by other business domains. Each product is developed by business domains that 'own' that data, with defined requirements for its provision to downstream domains agreed and assured by the providing domain.

Self-service infrastructure
Instead of creating organisational bottlenecks, autonomous delivery teams are empowered by taking a self-service approach to infrastructure.

Federated Governance
To support this new mode of thinking, the governance model needs to span three layers: product, data, and technology. Federated governance is enabled via universal standards and reference implementations, as well as proactive forms of governance that focus on teaching domains to self-govern.

How to implement data mesh architecture for insurance

How can insurers start their journey towards implementing a data mesh? Here are our top tips:

Define a data mesh strategy

Host preliminary conversations with business domains to solicit potential data products. Collate these product ideas and map how they might interact with one another. Determine the evaluation framework by which the feasibility and urgency of these data products will be assessed to inform your roadmap and any initial test cases/projects.

Design platforms & patterns

Based on the mesh strategy, develop technical patterns and reference implementation guidance to direct detailed platform designs. Design the future state self-service infrastructure as a platform, including its required technologies and enabling services that will support federated delivery.

Develop a governance model

Business users often complain about how hard data is to combine, as siloes prevent easy access and a lack of governance make modelling data onerous. This results in semantic and syntactic breakdowns that undermine analytical solutions. To avoid the issue of 'data swamps', common platform services provide access to metadata and data lineage, whilst also handling security and compliance challenges. All of this combined greatly increases the ability to innovate.

Evaluate maturity

We also recommend evaluating the operating model and maturity in Agile, DevOps, and other practices as part of these initial stages. Later stages of implementation can then move into the delivery of platforms, mobilising product delivery and governance, and adopting a new operating model.

> " Collate... product ideas and map how they might interact with one another. "

Key takeaways

As we emerge from a post-pandemic world, sustainable digital offerings are no longer a 'nice to have' - they are an expectation that must be met.

From intelligent automation for optimising customer experience to analytics driving customer insights, data is the key. It can open doors or close them depending on how an organisation uses it.

Our advice is to execute on a data strategy that aligns with the strategic objectives of the industry and learn from those who are doing it well in similar industries.

While past evolutions in data architecture have enabled more use cases and brought successive benefits, they still had their problems, leading to hyper-specialised teams operating with limited business domain context.

The data mesh is an enormous paradigm shift: technically, operationally, and culturally. However, its attractiveness is already being recognised by industry leaders, and we have already started leading our clients on their data mesh ambitions.

Meet the authors

ANTONIO PENEDA - MANAGING CONSULTANT

Antonio has worked on several digital and transformation programmes managing teams across client, suppliers, and offshore delivery teams using both waterfall and Agile methodologies. He recently led the creation and execution of the 'Technology trends and Innovation report' with the IUA.

Antonio has experience across multiple industry sectors including Insurance, airline, government, revenue and customs, retail, and the health sector.

JAMES ROSS - MANAGING CONSULTANT

With extensive experience of technology product delivery within the insurance industry, James brings his experience to our clients by leading and managing complex cloud, data, and Agile change programmes.

Currently embedded within a world-renowned insurer, James leads on several initiatives including Agile delivery, cloud infrastructure, and multi-vendor team management.

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