DATA MESH LEARNING

Getting Data Mesh Buy-In

A Whitepaper by the Data Mesh Learning Community

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Data Mesh: The New Data Paradigm

Data Mesh Learning (DML) is a community of 8,000+ data leaders on their data mesh journey. In September 2023, we surveyed the community for insights to one of the most consistent questions we are asked: How do I get buy-in for my data mesh implementation?

There is no one "right" way to implement data mesh. Much depends on your organization's culture and adaptability. What you will find, however, is that regardless of whether everyone had confidence in data mesh before the implementation began — they certainly did after.

To ensure the data was useful, we only accepted responses from those who indicated they had started their data mesh journey (not those who were evaluating data mesh). We paired the results with successful real world case studies from members of the DML community to provide you with recommendations for your data mesh journey.

The resulting whitepaper was produced by a DML working group composed of community members. We thank participants for their contributions.

Melissa Logan
Data Mesh Learning Director

Buy-in and Budgeting

While data mesh is at the peak of its hype in the data and analytics world, the vast majority of organizations have only just begun their data mesh journey. 72% of respondents reported they began their journey within the past two years.

What year did you start your Data Mesh implementation?

2019	4%
2020	9%
2021	15%
2022	39%
2023	33%

How would you rate your current progress on each of the four Data Mesh pillars?

- Domain ownership
- Data as a product
- Self-serve data infrastructure
- Federated computational governance

Not Started ● ● ● ● ● Completed
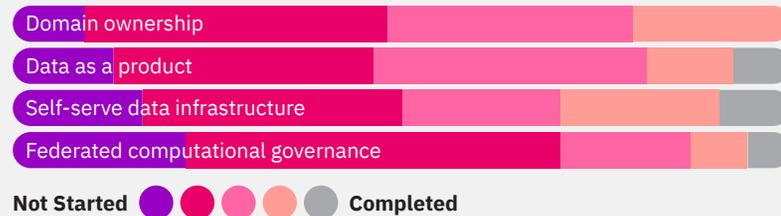
The push for data mesh is coming from data teams themselves a little more than half of the time (57%). This balance supports the hypothesis that centralized data teams must move to a more federated mesh model in order to avoid being a bottleneck to the business, while the business is likely pushing for mesh from the other direction — the need for more decentralized domain-level autonomy to allow those closer to the business decisions to get their hands on data and perform their own analysis.

Who initiated the request for the Data Mesh implementation?

C-level	11%
IT department	18%
Data team	57%
Other	14%

There is positive news in that data mesh conversations are reaching the C-level. 71% of respondents reported that budget approvals for data mesh activities are approved by C-level executives.

Who ultimately approved and released the budget for the Data Mesh implementation?

C-level executives	71%
Finance department	4%
Board of directors	4%
Other	21%

"Centralized data teams must move to a more federated mesh model in order to avoid being a bottleneck to the business."

DATA MESH LEARNING

Budgeting for Data Mesh

As organizations invest in data mesh, we wanted to understand how budgets were being allocated. The data demonstrate that talent and expertise are in high demand, with a large portion of budgets being dedicated to hiring talent, contractors, and consultancies.

More than half the respondents (56%) reported that up to a quarter of this budget will be spent on hiring talent to support data mesh. In fact, 26% of respondents said they'd plan to spend even more on talent — in the range of 25-50% of their budget.

Hiring Talent

Will spend up to 25% of their budget	**56%**
Will spend up to 50% of their budget	**26%**
Will spend up to 75% of budget	**4%**

Contractor Services

Will spend up to 25% of their budget	**28%**
Will spend up to 50% of their budget	**28%**
Will spend up to 75% of budget	**14%**

Consulting Services

Will spend up to 25% of their budget	**37%**
Will spend up to 50% of their budget	**11%**
Will spend up to 75% of budget	**10%**

The second largest choice of where to spend budget is on technology investments, with 39% of respondents saying they plan to spend up to a quarter of their budget on this category while another 38% plan to spend

from 25-50%. In a small number of cases, the entirety of the budget has been dedicated to technology investments.

While technology investments may appear to be an easy path to attaining data mesh, it's important to underscore that data mesh is not an architecture or technology — rather, it is a mindset shift in the way organizations think about data as an asset. Technology changes may be necessary, but the mindset shift is the most important aspect. There is no "off the shelf" data mesh technology you can buy to achieve data mesh.

Tech Investments

Will spend up to 25% of their budget	**39%**
Will spend up to 50% of their budget	**38%**
Will spend up to 75% of budget	**4%**
Will spend up to 100% of budget	**13%**
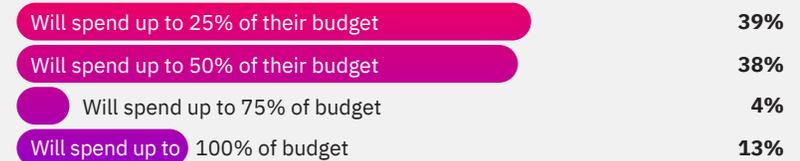
As with any investment in talent, there will need to be accompanying training. Specific to data mesh, this will likely mean new and existing employees who will need to participate. Half of the survey respondents reported that key decision makers will need at least basic training and education on data mesh concepts as they progress on their journey.

Did decision-makers receive specific training or educational resources about Data Mesh concepts and principles before making a final decision?

Yes, extensive training or educational resources	**4%**
Yes, basic training or educational resources	**50%**
No, but decision-makers had existing knowledge	**11%**
No, decision-makers made the decision without specific training	**32%**
Other	**4%**
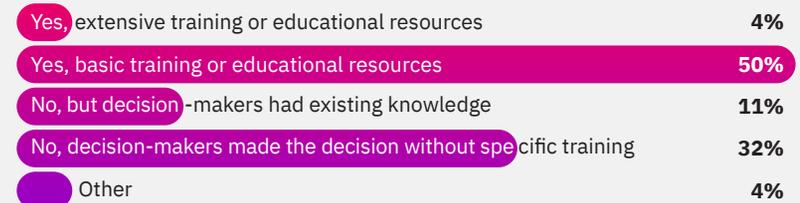
Internal Alignment

As with any paradigm shift in how things are done, data mesh can introduce friction to an organization. However, based on the results of the survey we are seeing a positive shift in the amount of alignment stakeholders and key decision makers have relative to pursuing data mesh. Prior to mesh implementations, about 40% of respondents reported that there was at least moderate alignment amongst stakeholders in how data mesh could help their data strategy. After the implementation starts and stakeholders begin to witness some early wins, this statistic improves: respondents report higher overall levels of alignment including a small percentage who mention achieving high levels of alignment which was not observed prior to implementation.

Watch **"The Benefits & Pitfalls of Data Mesh: Considerations Before Implementation"**
with Zhamak Dehghani and Joe Reis

Decision-Makers

-11% Low confidence 47% › 36%
-3% Moderate confidence 39% › 36%
High confidence 14% › 29% +15%
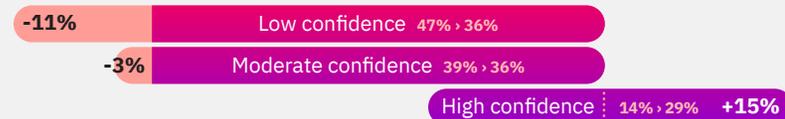
We saw a similar trend amongst stakeholders in the willingness to make changes in order to support data mesh. Prior to implementation, the sentiment was neutral on average. However, as implementations progress, the data begins to skew more towards stakeholders being open or very open to change in order to support the data mesh. This trend holds true relative to organizational change, architectural change, and for process and governance change.

The one outlier is process and governance, where openness decreased after implementation began. In the Data Mesh Getting Started section, we'll address why this most likely occurred.

Organizational

-18% Low confidence 39% › 21%
-7% Moderate confidence 39% › 32%
High confidence 21% › 46% +25%

Architectural

-7% Low confidence 21% › 14%
-14% Moderate confidence 39% › 25%
High confidence 39% › 61% +22%

Process and Governance

Low confidence 11% › 15% +4%
-18% Moderate confidence 50% › 32%
High confidence 40% › 53% +13%
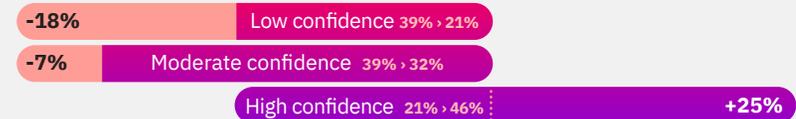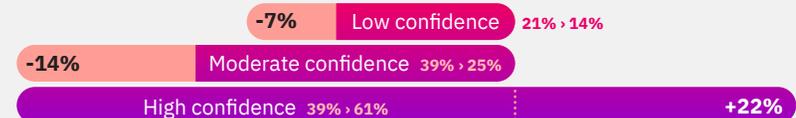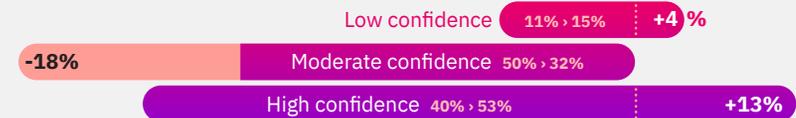
The overarching theme of organizations' data mesh journeys seems to be that, even though they are in the early days, achieving quick wins that can demonstrate the real value to various stakeholders bolsters confidence in the various teams. This in turn allows organizations to invest further and fill gaps that may exist either in people, process, or technology.

Confidence

-28% Low confidence 39% › 11%
Moderate confidence 18% › 40% +22%
High confidence 44% › 50% +6%
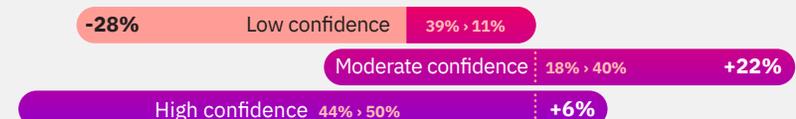
Influences and Concerns

Organizations consider alignment with strategic goals and the demonstrated potential to address data challenges as equally influential factors in achieving buy-in for data initiatives, each receiving a high approval rate (around 70%). However, clear business benefits and ROI, while still important, lag behind at 46%. This suggests that organizations prioritize long-term strategic alignment and data problem-solving capabilities over immediate financial gains.

One respondent highlighted the concern of not seeing benefits from previously attempted approaches, emphasizing the need for demonstrable results. It's encouraging to see that organizations are placing importance on aligning data initiatives with their strategic goals and addressing data challenges effectively. This reflects a forward-thinking approach to data management. However, the relatively lower rating for clear business benefits and ROI suggests that organizations should work on better communicating the financial advantages of their data initiatives to secure broader buy-in.

Which factors were most influential in gaining buy-in for your data mesh implementation? Select all that apply.

Alignment with strategic goals and objectives	68%
Demonstrated potential to address data challenges	68%
Clear business benefits and ROI	45%
Success stories from other organizations	23%
Industry trends and market demand	18%
Input from external consultants or experts	18%
Other	18%
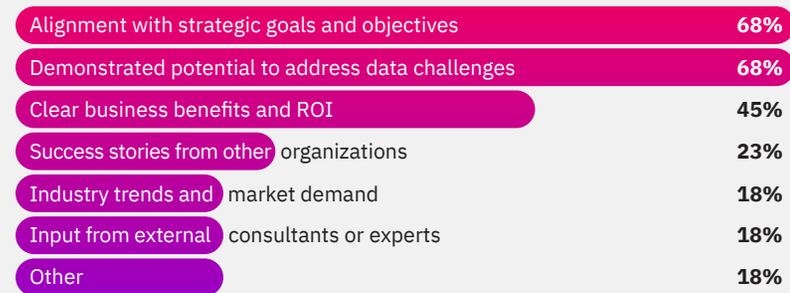
The majority of respondents (67%) reported encountering no resistance within their organizations regarding data mesh initiatives. However, those who indicated they faced "some" resistance attributed it to C-level executives (55%), followed by IT and business analysts (both at 33%). This indicates

that while resistance is not widespread, it tends to originate from higher levels of management and technology-related roles.

From whom in your organization did you encounter resistance to adopting a Data Mesh approach, if any?

| IT department |
| Data team |
| Business analysts |
| C-level executives |
| No resistance encountered |
| Other |

No Resistance ●●●●● Most Resistance
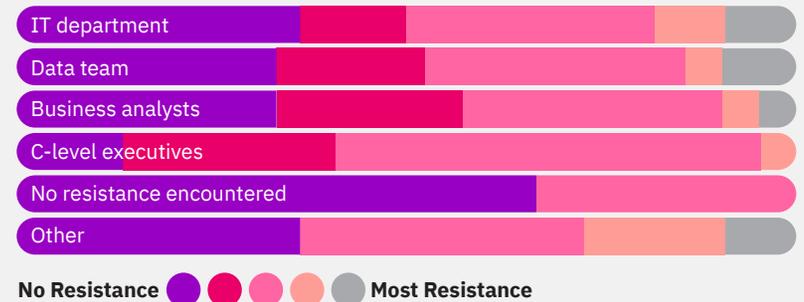
It's reassuring that a significant portion of organizations experience no resistance to their data initiatives. However, the presence of resistance, particularly from C-level executives, suggests a need for more effective communication and collaboration strategies. Winning over top management support is crucial for the success of data-driven initiatives.

Top Concerns

We've found out that organizations have several significant concerns when it comes to data mesh initiatives. The top concerns, in ranked order, are resistance to change from existing processes and systems, cultural resistance or lack of organizational readiness, uncertainty about potential business value and benefits, lack of clarity on implementation roadmap and steps, and perceived risks and challenges in adopting data mesh. Interestingly, these concerns are closely rated, indicating that organizations face a multifaceted set of challenges in their data initiatives.

What were the most significant concerns or factors that created hesitation or fear during the buy-in process for implementing a Data Mesh approach?

Resistance to change	4.27
Cultural resistance or lack of organizational readiness	4.18
Uncertainty about potential value and benefits	4.05
Lack of clarity on implementation	4
Perceived risk and challenges	3.41
Other	1.09

Which of these technology considerations most influenced your organization's decision to pursue Data Mesh?

Need to upgrade legacy systems and infrastructure	3.09
Need to move from on-premises to the cloud	2.59
Need to better leverage our investments in cloud	2.55
Other	1.77

The diversity of concerns listed suggests that organizations should adopt a holistic approach to address the challenges associated with data initiatives. While resistance to change and cultural readiness are expected obstacles, the emphasis on clarity, business value, and a well-defined roadmap underscores the need for comprehensive planning and communication strategies. It's clear that data mesh initiatives require a mix of technical and organizational solutions.

When it comes to technology considerations for data mesh initiatives, none of the options stand out significantly, as they are all closely rated. The ranked order of concerns is the need to upgrade legacy systems and infrastructure, the need to move from on-premises to the cloud, and the need to better leverage investments in the cloud. This suggests that organizations are grappling with various technological challenges, with no single issue taking precedence.

The close ranking of technology considerations underscores the complexity of technology decisions in data mesh initiatives. Organizations must carefully assess their existing infrastructure, cost implications, and long-term goals when making technological choices. The lack of a clear leader in this ranking implies that a tailored approach is necessary, with solutions designed to address an organization's unique technological landscape and needs.

"It's clear that data mesh initiatives require a mix of technical and organizational solutions."

Data Mesh Getting Started

Respondents agree that incremental adoption in stages is the best approach to adopting data mesh. Getting started with data mesh can seem daunting when considering all the socio-technical factors within a company. Incremental adoption allows you to survey internal stakeholders for their requirements, understand use cases, identify champions, and lay out key milestones that can establish confidence along the way. This is why a resounding 86% of respondents believe an incremental approach can lead to better outcomes.

A Proof of Concept (PoC) in a specific area helps you gain traction with incremental adoption by getting internal wins with minimal cost and effort. By testing a new domain-specific data product as an isolated PoC, you can prove out the advantages of data mesh and understand the organizational nuances that your stakeholders should be aware of. During the PoC, you can internalize the core principles of data mesh while codifying its abstractions for cross-functional retainment.

Effective Approaches

#1 Incremental adoption in stages

#2 Proof of Concept (POC) in a specific area

Let's take an example from Chapter 9 of Zhamak Deghani's *Data Mesh* book. As mentioned in the book, you can roll out a Mesh experience plane, data product experience plane, and infrastructure utility plane as interfaces for data. Doing this for every domain in your company during the first pass would be an attempt to boil the ocean to say the least! This is why all respondents agree that a "big bang" approach to adopting data mesh is unfeasible and likely to fail. Instead, you can start your PoC with one data product and see how far you can go. You are likely to uncover some internal bottlenecks and roadblocks in your PoC, but this is expected in the process of transformational patterns.

The formation of a data mesh 'committee' or 'task force' has varying degrees of adoption in the data mesh community, likely due to organizational uniqueness. Some companies work best when one leader is calling the shots and providing precise clarity on how everyone must adopt data mesh. Other companies may find it best to collaborate and work towards consensus on how to roll out data mesh. We recommend data leaders use their emotional IQ, understand their organization, and decide how to approach data mesh with incremental adoption and tactical PoCs accordingly.

Which Pillar First?

While our respondents don't recommend implementing all four data mesh pillars at once, it's important to understand how each of them will work for your organization and plan ahead. We asked how they prioritized implementation and the majority began with "Data as a product." It's one of the most tangible ways to get started with data mesh to begin showing return on investment (ROI) right away. This is followed closely by "Domain ownership" which is crucial for ensuring accountability and management of data products, as those who are closest to the domain have the most knowledge and will benefit the most from domain ownership.

Watch **"Data Products in Practice in a Data Mesh World"**
Moderated by Sanjeev Mohan

As more data products become available, self-service infrastructure becomes mission critical to enable sharing, consistency, and reliable policy enforcement—while federated computational governance is needed so data quality is not sacrificed. Higher-order value can also be attained by interconnecting data products.

What was the order of priority for your Data Mesh implementation?

Data as a product	3
Domain ownership	2.88
Self-serve data infrastructure	2.44
Federated computational governance	1.69

Internal Education

To avoid top challenges described in the previous section, we asked respondents to share the most effective approaches for keeping people informed about data mesh throughout implementation. The most prominent suggestion was "Workshops or trainings" followed by "Content" and an "Internal wiki or portal." Again here, the best solution will depend on your organizational culture and a mix of these may be appropriate.

Effective Approaches

#1	Workshops or trainings
#2	Content, e.g. decks, articles, whitepapers
#3	Internal wiki or portal

Challenges to Consider

Respondents shared with us the unexpected challenges they encountered once their data mesh implementations began. Because data mesh is a socio-technical solution that requires changes not just to technology but also to organizational structures and processes, it's not surprising to see "Cultural or organizational resistance" is the top challenge (75%). Team structures may change, job titles may shift, and people must be educated on new workflows and ways of thinking. Which leads us to the second most cited challenge: Lack of clarity on roles and responsibilities (63%). The more you can prepare for these challenges, the smoother your implementation will be.

What unexpected challenges or obstacles did your organization experience during the early stages of the Data Mesh implementation, if any? Select all that apply.

Cultural or organizational resistance	75%
Lack of clarity on roles and responsibilities	63%
Technical challenges	56%
Skill gaps or training needs	56%
No unexpected challenges encountered	6%
Other	6%

"Team structures may change, job titles may shift, and people must be educated on new workflows and ways of thinking."

Conclusion

Roche Diagnostics began their data mesh implementation in 2021 and today have over 50 operational data products. Because they no longer have to wait for the platform team to do deployments, releases have accelerated: 291 in a single month in 2023 compared with one release that took two weeks the year prior. It now takes just 6-8 weeks to onboard a new data product, depending on the clarity of the use case. We hope their use case is inspiring as you start or continue on your data mesh journey.

Watch **"Two Years of Data Mesh at Roche Diagnostics"**

with Omar Khawaja

Data mesh's decentralized, socio-technical approach to data ownership in the business domain enables scalability, flexibility, and agility while improving quality by meeting expertise where it lives in your organization.

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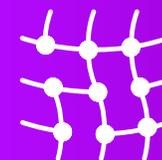
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