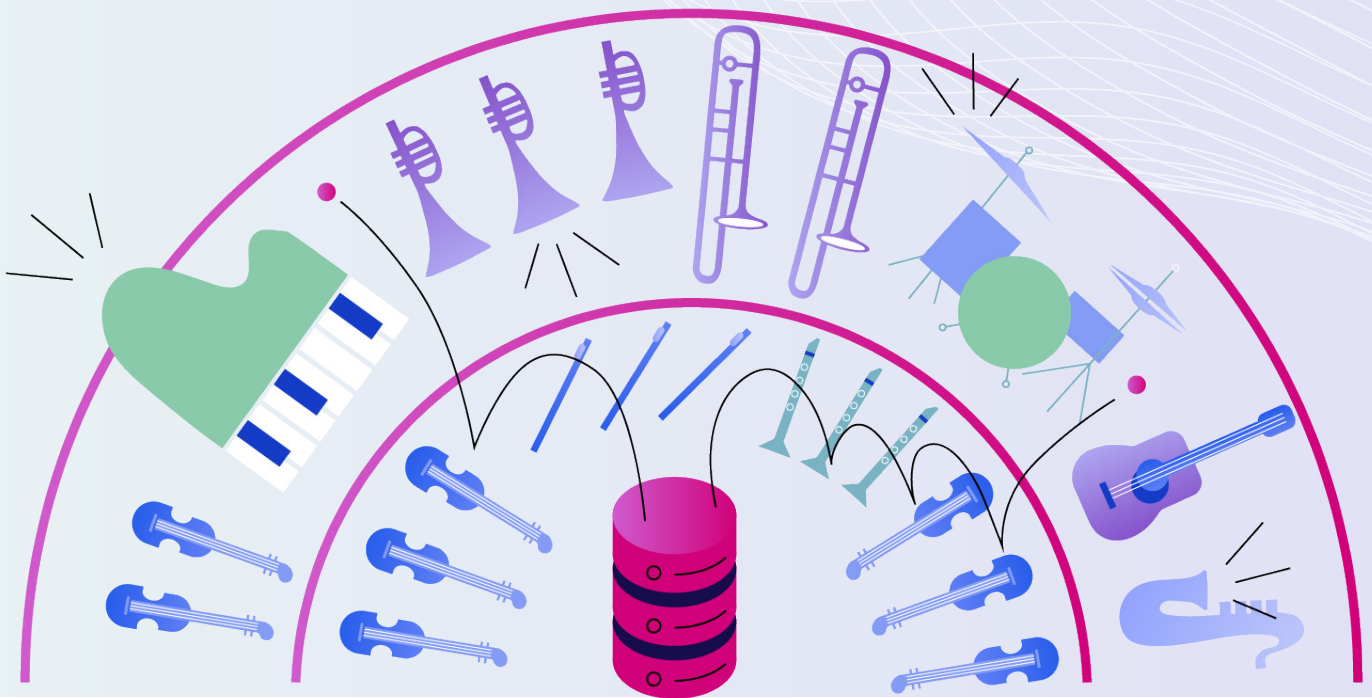# From silos to synergy: harnessing marketing's potential in your data mesh journey

How to transform marketing teams from data consumers into data product owners.

Simon

Executive summary

The concept of a data mesh—as defined by Zhamak Dehghani set the stage for this paradigm shift in her 2018 paper, "How to Move Beyond a Monolithic Data Lake to a Distributed Data Mesh," —has emerged as a transformative force, presenting organizations with a compelling proposition:

Just as a symphony orchestra brings together individual musicians—each with their own unique sound and contribution—to create transcendent harmonies, the data mesh brings workloads to the data, whether centralized or decentralized, unlocking a world of low latency and immersive experiences and empowering various business domains to take ownership of the data they produce, while enabling with broader access to data from across the organization.

Marketing's contribution to the data mesh is gaining ground as a new way to get the most out of marketing spend and improve operational efficiency as organizations lean in heavily on how to democratize their data for the highest value.

Moreover, in the face of economic uncertainty, new privacy regulations and the fading relevance of third-party cookies, organizations are compelled to rethink their strategies for personalized marketing. It is in this context that the data mesh has become an irresistible idea for an increasing number of organizations,

While still a relatively new concept, the data mesh has captivated the attention of data-first organizations, which have wasted no time in joining this transformative journey. According to Thoughtworks Technology Radar, the data mesh architecture is poised to become a leading force in the industry by 2025. As we find ourselves deep into the year 2023, the trajectory is set, and the next year or two will witness an exponential surge in data mesh adoption.

Is your marketing team ready to embrace decentralized data ownership? This white paper explores the benefit of bringing marketing into the music, the mindset and organizational shifts necessary to fully harness the power of the data mesh, and the level of effort needed from data teams to enable marketing to go from data consumer to producer.

"Marketing's contribution to the data mesh is gaining ground...to get the most out of marketing spend and improve operational efficiency as organizations lean in heavily on how to democratize their data."

1

The benefits of bringing marketing into your data mesh

Bringing marketing into your data mesh offers a plethora of benefits including eliminating the need for marketing to rely on data or IT teams for complex data requests. With this newfound agility and autonomy, marketing teams can use data more effectively for their campaigns.

At its core, applying the data mesh paradigm in marketing offers a framework for organizations to unleash the untapped potential of their data assets and drive highly impactful marketing strategies. When teams have ownership of their data, it empowers them to continually explore and delve deeper into the insights it holds. It grants them the freedom to experiment and truly comprehend the data they possess.

For example, when it comes to segmentation, marketers can leverage the data mesh to discover innovative methods of micro-targeting new audiences. This can be especially valuable in challenging economic times, when consumer spending may be stagnant or declining.

"[The Data Mesh]…provides marketing a golden ticket to elevate its contribution not only to brand and revenue metrics, but to the overall business."

What does it take to successfully implement a data mesh?

It all boils down to the tried-and-true triad of people, process, and technology. For marketing and data engineering teams alike, the data mesh is a huge opportunity to amplify marketing's ability to contribute its domain-specific expertise and the associated data back to the broader organization. This essentially provides marketing with a golden ticket to elevate its contribution not only to brand and revenue metrics, but to the overall business.

Of course, to realize the marketing data mesh's true potential, there exist two crucial technology requirements: First, organizations need their data to be centralized in a cloud data warehouse (CDW). The second is having a marketer-friendly, low or no-code technology solution that grants easy access to the necessary data, such as a cloud-native customer data platform (CDP).

With data centralized in a cloud data warehouse, marketing can tap into the same data as other departments, and leverage business intelligence tools built on the data mesh to gain further insights.

This effectively enhances marketing's value within the wider business context. By combining cross-channel engagement data with meta data that allows for attribution back to marketing efforts, the value of the data increases for everyone involved, including marketing. Revenue projections, and predictive models for specific customer segments can be shared across the organization and further optimized for accuracy, fostering a culture of collaboration and experimentation.

The best part is that with a marketing-engaged data mesh in place, this collective knowledge transcends departments, ensuring that no insight is confined to marketing. In short: when your CDP is built on top of your data warehouse, every aspect within the CDP contributes to the data mesh, reinforcing its overall strength and value to the organization.
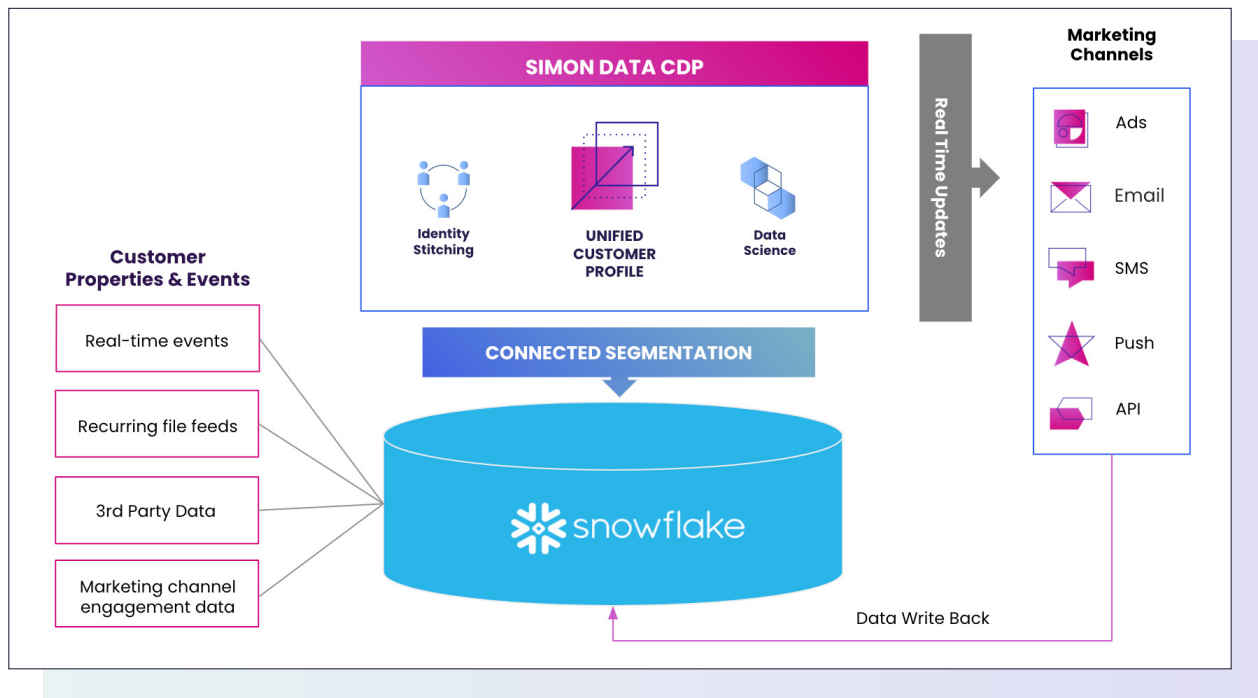
Fig. 1 (above) When the CDP is built on top of your data warehouse, the data generated by marketing is written back into the warehouse for use by all.

Getting marketer buy-in

Getting marketing to embrace the data mesh requires a proactive approach from data engineering leaders to showcase the inherent value of the data mesh.

Traditionally, marketers have been less concerned with the underlying infrastructure supporting their martech stack or broader flow of data across the organization. However, when presented with the fact that the data mesh can turbocharge their segmentation capabilities, foster innovation in customer journeys and enable them to execute highly personalized campaigns - those are use cases that resonate deeply with every marketer.

The reality is that even though modern CDPs have propelled marketers towards a 360-degree view of customers, many teams are still a few steps away from completing the full circle.

This is where the data mesh steps in, aiming to address this very challenge by enabling teams to access real-time data sourced from across the organization and leveraging user-friendly interfaces offered by marketer-friendly CDPs.

This streamlines data discovery powering essential marketing functions, including audience segmentation and campaign analysis.

Moreover, with the evolving landscape of privacy laws and the imminent demise of third-party cookies, marketing teams are under immense pressure to swiftly devise strategies to maintain and enhance their 360-degree customer view while delivering personalized campaigns. These changes are no longer just looming on the horizon; they are already here, demanding immediate attention.

This is again where your tech stack can help empower your marketers and set them up for success within the data mesh.

A cloud-based data warehouse, such as Snowflake, should form the foundation for a robust CDP implementation. And regardless of which CDP you choose, it must be designed for marketers, providing them with a user-friendly interface that allows seamless data flow in both directions.

This ensures that marketing can extract data from the mesh to execute use cases and activate it wherever necessary.

2

A deeper dive into the data mesh

Picture an orchestra performing on stage, with each musician representing a different data product or service. The conductor ensures coordination and harmony among the musicians.

In the data mesh paradigm, data is treated as a product. For marketing, this means the team can generate, manage and leverage its own data and are granted ownership and control over the information it needs to make informed decisions and execute effective campaigns. Marketers can look forward to an easier and faster way to activate marketing data—fewer dependencies on IT and data engineering, the elimination of most time-consuming bottlenecks and domain control—the data is theirs to run with.

All good—so what's the problem? If your CDP and data warehouse can already harness live, real-time data from all channels you're already ahead of the curve.

However, the reality is that many organizations still grapple with data silos to one extent or another, and lack a readily accessible means to securely and responsibly share data with other teams, suppliers, and third-party entities. This poses a significant hurdle for organizations striving to establish a seamless and governed approach to data sharing that ensures both accessibility and security.

Let's take a moment to understand that these common marketing activities—are now data products:

- Customer segments or audiences
- Cross-channel engagement
- Predictive models
- Customer demographics and pyschographics
- On-site behavior
- Email, push and SMS analytics
- A/B test or multivariate experiment results
- Customer preferences around message, channels & timing

How data leaders can help marketing to embrace and drive change

How can data leaders help marketers embrace the data mesh? First, it helps to reassure them that the data mesh will streamline their workload, not add to it.

Marketing is, and should be, always coming up with new data use cases. But without a marketing-enabled data mesh in place, data teams will continue to have to write endless ad-hoc SQL queries to support critical marketing activities, like segmentation.

This introduces bigger problems. When data travels outside your data warehouse to marketing users, it quickly becomes out of sync and possibly obsolete with the original dataset and the gulf between marketing and data teams continues to grow.

Meanwhile, data teams struggle to find bandwidth for higher value activities when they're continually bogged down by marketing requests for things they simply cannot get on their own.

Finally, the analytics output by marketing can offer incredible levels of insight and value to the broader organization. However, these are generally lost to the rest of the organization without a data mesh approach in place.

Data leaders must recognize all of these issues and advocate for the implementation of the data mesh, as it offers a promising solution that addresses these pain points.

By embracing the data mesh, marketers can gain better control over their data, eliminate unnecessary dependencies on data teams, and enhance collaboration between marketing and data functions.

This, in turn, opens up new avenues for actionable insights, ensuring that the entire organization can reap the benefits of marketing data and drive informed, customer-centric decision making across the board.

3

How big a lift is required to bring marketing to the data mesh?

Transitioning to a data mesh requires a cultural shift between the marketing and engineering teams and, to some extent, within those teams.

The empowerment that can be realized by de-centralized data ownership is compelling, but busy marketers may be concerned that it will just take them too long to learn.

Their subject matter expertise lies mostly outside the realm of data operations. Thus, they must rely on data engineering to enable their participation in the data mesh.

Fortunately there are many easy-to-use, no-code tools coming to market with to smooth the transition.

Traditionally, marketing departments have relied on centralized data teams and cloud data warehouses to handle the collection, storage, and analysis of data. However, this centralized approach often leads to bottlenecks, hindering agility and stifling innovation in customer segmentation, personalization and campaign execution.

Enter the data mesh approach which addresses these challenges head-on by shifting the responsibility of data management and analysis to marketing teams. A data mesh enables marketers to take charge.

Ultimately marketing is on the hook for proving ROI on campaign spend and for its contribution to the sales pipeline—it stands to reason then that giving them more control over their data and autonomy on how to use it will be met with a positive reception..

The role and requirements for data mesh-friendly marketing technology

For marketing, having or adopting a CDP that is built on your cloud data warehouse is critical. This way, marketers can work with data without it ever leaving the warehouse.

What happens when data leaves the warehouse?

While transferring data out from the warehouse is a common practice for companies running on less-modern data and marketing infrastructure, there are several risky downsides, including:

- Data latency
- Security and compliance
- Overhead for data engineering
- Data fragmentation

The data warehouse lies at the center of the data mesh architecture, but the CDP is a critical intermediary between data and marketing. This offers marketers real-time access to a single source of truth, and the ability to query in terms they understand.

A warehouse-native CDP also facilitates a bi-directional pipeline of data between the marketing tech stack and the cloud data warehouse.

When selecting a data-mesh friendly CDP, look for solutions that it can ingest data from any channel, including consumer-facing apps and even sources of third-party data. Additionally a marketer-friendly-UI, will enable non-technical users to access to data without having to seek out help from data teams.

The 4 principles of the data mesh

The Data Mesh was originally based on four principles as defined by Zhamak Dehghani in her paper "How to Move Beyond a Monolithic Data Lake to a Distributed Data Mesh." The paper puts forth a new paradigm for data built around those four primary notions: 1) that data is viewed as a product, with product owners who manage that data and make it accessible to external stakeholders, 2) that ownership and control of data is organized into domains, 3) data is held in a central platform, so there is only one source of truth, but is managed by (decentralized) domains, and finally 4) self-service accessibility.

Domain ownership

In the data mesh architecture, data is owned and managed by those who primarily use it. This ownership is organized into domains, with domain teams owning their data end-to-end. Federated policies handle governance. Data mesh decouples ownership around domains in much the same way we've seen with micro-services.

A scalable data mesh helps eliminate data silos by distributing ownership. In most cases, your marketing data mesh will have marketing as the domain owner, however it is possible to set up cross-functional teams (such as sales or finance) as a domain with shared governance. As long as a common data infrastructure is maintained, the domain strategy can be flexible over time to accommodate changing needs.

Data as a product

The data itself can be viewed as a product. Domain owners can be viewed as product owners. At its highest expression, the "data as a product" concept may involve marketing, in this case, creating value-add layers around the data itself to guide and help users more quickly see its relevance; for instance with labels or views that are specific to the company's nomenclature, or a specific event timeline such as a product launch. Analytics run against the data also helps users from other domains quickly see what's useful about it and, when your CDP sits on top of your data warehouse, those analytics can go back into the data warehouse for use by other teams.

Federated governance

Policies and governance are enterprise-wide and must be applied into each domain. The data mesh is generally implemented in a hybrid cloud architecture, so you may have multiple private and public clouds sharing workloads. Federated governance applies compliant, consistent policies across the board, helping domain owners to not worry about compliance, including privacy.

Self-service accessibility

Integration with a modern CDP allows stakeholders to discover and self-service their data needs. When users are consuming data, they are doing so in a series of events distributed across the data mesh. When offered along with federated governance, domains can comfortably provide access to not only the data but also the tools and applications they use to work with it out to other users.

Building a use case for marketing

The choice between a data mesh that provides comprehensive and direct access to all data and one where the data is simply moved into marketing's workflow.

Let's consider the scenario of a dynamic abandoned cart experience to illustrate this distinction. Imagine constructing a workflow where abandoning a shopping cart triggers a personalized experience, reminding the customer about the specific item they left behind. If they proceed with the purchase, a thank you email is sent, whereas if they don't, a discount promotion is offered.

Here is where the significance of the data mesh architecture becomes apparent—it becomes the home for this use case, preserving all the work invested into it. One notable advantage is that not only can marketers revisit and refine this use case, but so can data engineering teams. In a way, it resembles a shared sandbox, where iterations are saved, and upon revisiting, the data is automatically updated in real-time. This aspect of the data mesh serves as a valuable bridge, fostering collaboration and propelling the partnership between marketers and data teams to new heights.

Conclusion

When it comes to instilling a culture of healthy data ownership and contribution within an organization, the responsibility cannot solely fall on data leaders. However, they are uniquely equipped to help marketers understand the benefits of this shift. By nurturing their collaborative partnership and shifting the perspective from data engineering as a gatekeeper to empowering marketers to take charge of their own data, data leaders can easily demonstrate the value in this approach.

Many organizations have experienced the shortcomings of the traditional "data lake" concept, which failed to account for the cultural shifts required for effective domain ownership—a challenge that the data mesh architecture resolves. With the marketing data mesh, ownership is rightfully placed in the hands of marketers, while also addressing the challenge of establishing a single source of truth through centralized data and a data warehouse-native CDP. As a result, it becomes an investment that can adapt to future data management approaches.

To overcome resistance and foster a successful transition to a data mesh architecture, building a collaborative relationship between data and marketing teams is paramount. Open communication, transparency, and involving data teams in the planning and implementation process can help address their concerns and ensure a seamless adoption of the new architecture.

In today's landscape, brands are confronted with the challenge of extracting maximum value from their first-party data. The data mesh architecture, in conjunction with a data warehouse and a warehouse-native CDP, becomes a critical catalyst for innovating new marketing use cases. Through an orchestrated bi-directional workflow, marketing data can effortlessly flow back into the data warehouse for wider consumption across the organization. Ultimately, the goal is to unlock the untapped potential of data collected through various touch points in marketing, enhancing the customer experience and fully realizing the promise of data and cloud investments.

About the author

Matt Walker, Co-Founder & CTO at Simon Data

Matt Walker is the Co-Founder and CTO of Simon Data, the first fully Snowflake-Connected Customer Data Platform.

He has previously wrangled data at Apple, Etsy, Adtuitive and Pervasive. He received his Bachelor's in Electrical and Computer Engineering from Rice University and earned his Masters in Computer science at the University of Texas at Austin.

About Simon Data

Simon Data empowers marketing teams with the only Customer Data Platform (CDP) purpose-built to increase campaign performance through faster, more precise segmentation and personalization. The first fully-Snowflake connected CDP, Simon's technology enables brands to break free from outdated architecture that makes data hard to access and deploy. Learn more at **simondata.com**