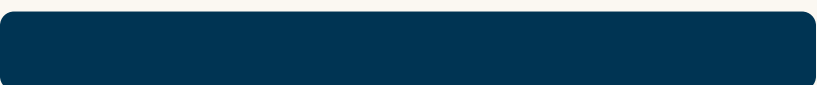


The Ultimate Data Product Management Guide



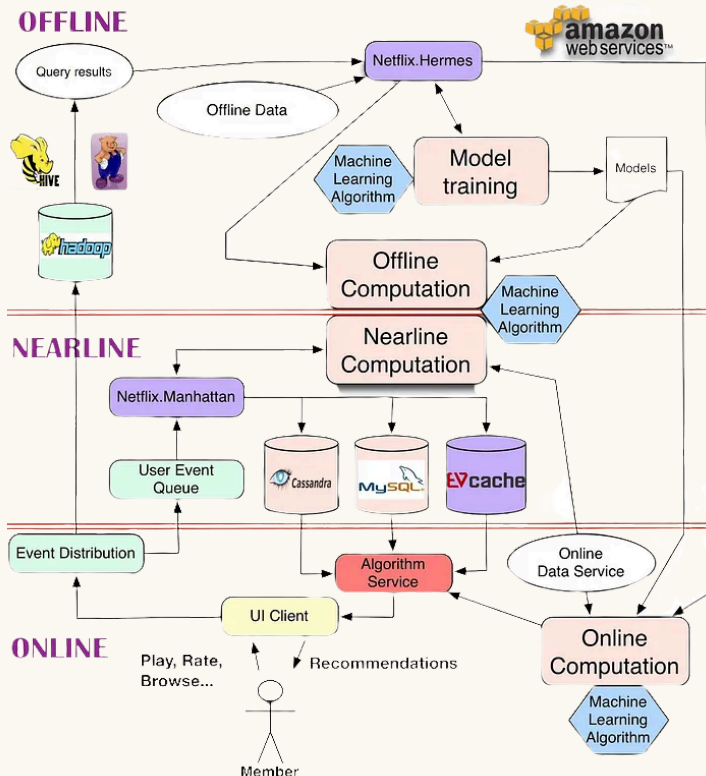
TABLE OF CONTENTS



- 01 Rise of the data product manager
 - 02 Defining a data product manager
 - 03 What exactly is a data product?
 - 04 Treating "data like a product"
 - 05 Data product manager responsibilities
 - 06 Data vs. software product managers
 - 07 Data product manager career path
 - 08 Measuring success
 - 09 Future of the data product manager
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RISE OF THE DATA PRODUCT MANAGER

In the long-ago days of the early aughts, tech leaders like Netflix and LinkedIn were facing a new challenge: across the organization, teams were working with data at an unprecedented speed and scale.



Netflix System Architectures for Personalization and Recommendation Circa 2013
[Source.](#)

Data fueled company-wide decision-making and drove product roadmaps, while data teams developed new methodologies and solutions that would change how

enterprise organizations leveraged data for decades to come.

But no one was responsible for developing data solutions to make analytics scalable and operational across the business.

These forward-thinking organizations created the role of the data product manager to answer questions like:

- What data exists?
- Who needs it?
- How does it flow?
- What's its purpose?
- How can we monetize?
- Can it be easily used?
- Is it compliant?

and, perhaps most crucially...

How can we make data more useful to more people at the company faster?



DEFINING DATA PRODUCT MANAGER

Like traditional product managers, data product managers sit at the intersection of business stakeholder, engineer, and user. Only instead of software engineering, data product managers are a critical connection between business stakeholders, data engineers, data scientists, and data consumers.

As more legacy companies are investing in data and introducing data products, the role of the data

product manager has become crucial to deliver the most value from data within organizations that are not natively data-driven.

In this guide, we'll discuss how data product management practitioners can scale the impact and adoption of reliable data products at scale—through the lens of data product managers at some of the world's most data-driven companies.

What does a data product manager do?

- Manage the cross-functional development of a data platform
- Manage work and communicate with people across teams
- Partner with business leaders to drive adoption of data products
- Measure the success of data products across the organization

WHAT EXACTLY IS A DATA PRODUCT?

Let's pause and get on the same page about a surprisingly complex, question: what is a data product?

Data products deliver accessible, reliable sets of data to people across an organization. On the simplest level, that may be a Looker dashboard or even a single production table.

On the more complex end, it could be a multi-layered platform that provides a 360-degree view of customers.

These types of data products can drive increased revenue or cost savings.

What differentiates a data product from just another dashboard, table, or other application is the degree to which it is reliable, governed, discoverable, and interoperable.

A data product should deliver...

1. Increased data accessibility
2. Increased democratization
3. Faster ROI
4. Time savings
5. More precise insights

Six Characteristics of Successful Data Products

- Reliability and observability: Data product managers need solutions to keep data downtime to a minimum.
- Scalability: The data product should scale as demand grows.
- Extensibility: It needs to easily integrate with APIS and be ingestible in all the different ways people consume data.
- Usability: Provides a great user experience.
- Security and compliance: Data leaks are costly as are fines.
- Defined roadmap: A plan for how the data product will evolve over time.

“

..We have data engineers using engineering best practices.

There has been a lot of progress in the field over the last 20 years when it comes to reliability and quality control.

The best data teams approach data like an engineering problem.

”



CHRIS CHILDS
Director Product Management
Snowflake

TREATING DATA "LIKE A PRODUCT"

Leading data-driven companies have adopted a new paradigm: treating data as a product. Under this framework, data teams should:

- Invest in self-service tooling that non-technical teams can access (rather than function as an on-demand service to fulfill ad hoc requests)

- Set up KPIs aligned with your business goals before beginning any new data initiative or product
- Use proven processes like scope documents and sprints
- Understand and serve internal “customers”
- Apply standards of rigor like SLAs, testing, monitoring, and documentation



“

Data product managers usually come from backgrounds like traditional B2B product management, internal tooling product management, data analysis, or back-end engineering.

But instead of working with what we traditionally define as 'customers' (i.e., an individual buying or consuming your software), you're working with "data consumers"—in other words, employees using products that make sense of your company's data.

”



Atul Gupte
Product Lead
Instacart

DATA PRODUCT MANAGER RESPONSIBILITIES

Data product managers are responsible for designing, building, and managing the cross-functional development and deployment processes required to create a data platform, or suite of specific data tools, that serve multiple customers.

This includes:

- Building scalable data products for consumption by the business.
- Designing a company's central data platform, customer data platform, and other technologies driven by data
- Balancing strategy, governance, and implementation of data products.
- Serving as intermediary between data engineering teams and data analysts or BI users.
- Ensuring data reliability and trust across all data products.
- Measuring ongoing use and value of data products.



DATA VS SOFTWARE PRODUCT MANAGERS



Data product managers and software product managers, naturally, have a lot in common.

But data product managers are expected to bring advanced data literacy to the table. Here's a breakdown of the similarities and differences between each role's expectations:

SIMILARITIES

Coordinate across functions and units

Manage diverse teams

Exercise influence without formal authority

Understand customer needs

Understand software development (because data products involve software!)

DIFFERENCES

Understand how to capture, extract, improve, and integrate data

Understand the basics of analytics, AI, and statistics

Understand key types of AI, data, and modeling requirements

Understand ML basics and concepts like model "drift"

Be familiar with the AI and data vendor landscape

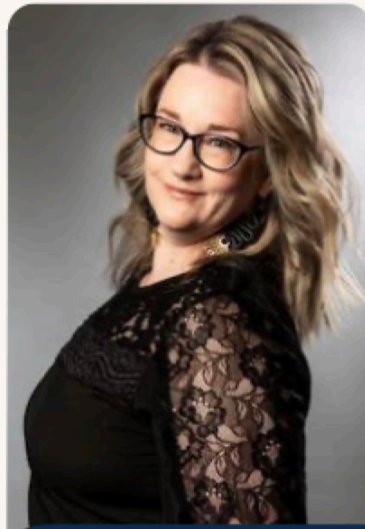
“

From my perspective, a data product manager is actually one of the first roles I would hire for.

I like them to actually create the vision and then drive the engineers to that vision.

For me, it is a critical component as I tend to focus on data product managers who can create a story, engage with our internal customers or even our product team.

”



Wendy Turner-Williams
Adjunct Faculty
Carnegie Mellon

THE CAREER PATH

Data product managers can come from a variety of backgrounds, including consulting, traditional product management, internal tooling product management, data engineering, data analytics, and software engineering.

While data product managers don't spend their days coding, they do need to bring a certain level of technical understanding and rock-solid grasp of data concepts to their role.

Required skills:

- Project management
- Data analytics and/or data science
- Product design
- Communication and stakeholder management
- Business understanding
- Plus: data engineering

Salary expectations and job market (as of April 2023):

- Over 200,000 open jobs on LinkedIn
- \$103,296 national average salary on Glassdoor (varies based on region, skill level, and industry)



“

At the end of the day, your C-level executives and top-level stakeholders don't necessarily want input metrics.

They want output metrics—things that represent the growth of your user base, revenue growth, or profitability.

”



Luke Lin
Director of Product
SoFi

MEASURING SUCCESS

Data product managers are responsible for reporting on the success of their products by measuring data key performance indicators or KPIs (see left side bar).

And to truly capture meaningful information, data product managers should look to numbers tied to specific, relevant business outcomes like revenue, churn, or financial performance.

Data KPIs include:

- Data downtime
 - Number of incidents
 - Time to detection
 - Time to resolution
 - Data downtime cost
- Data reliability engineering
 - Status update %
 - Monitoring coverage
 - Tests or custom monitors set
 - Time spent on quality
- Data satisfaction
 - Data trust
 - Data value
 - Ease of use
 - Data satisfaction
 - Adoption
- Data health
 - SLA adherence
 - Dormant tables/fields
 - Deteriorating queries
 - Table importance
 - Documentation
 - Incidents on ingestion



FUTURE OF THE DATA PRODUCT MANAGER

As cloud costs rise and data budgets tighten, data product managers will become increasingly critical for businesses to efficiently drive the most value from data.

In addition to more companies hiring for this crucial role, the following trends and developments will impact how data product managers work in the near future:

- Generative AI will make data documentation and menial data tasks easier and faster.
- Zero ETL's transactional database will do data cleaning and normalization, expediting data pipeline development.
- Data observability will give end-to-end visibility into data health at each stage of the pipeline and reduce data downtime, leading to more reliable and eagerly adopted data products.

In other words, it's an exciting time to be a data product manager.

Curious how these in-demand professionals are using data observability to ensure reliable, quality data across their suite of products? [Contact our team](#) to learn more.



#1 Data Observability Platform

Get a complete view of your data health across your data lakes, warehouses, ETL, BI tools, and catalogs



Easy to get started with

Get up and running with ML-powered monitors for freshness, volume, and schema changes, and end-to-end lineage out of the box.



Resolve data quality issues faster

Empower your data team to identify, triage, and resolve data issues faster with a comprehensive, centralized incident resolution toolkit.



Thinking about building or buying your data quality solutions?

Contact our data quality experts today to find out how Monte Carlo can help your team save time, reduce costs, and maximize your data resources with data observability.



[Data Downtime Blog](#)



[Data Quality Fundamentals](#)



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