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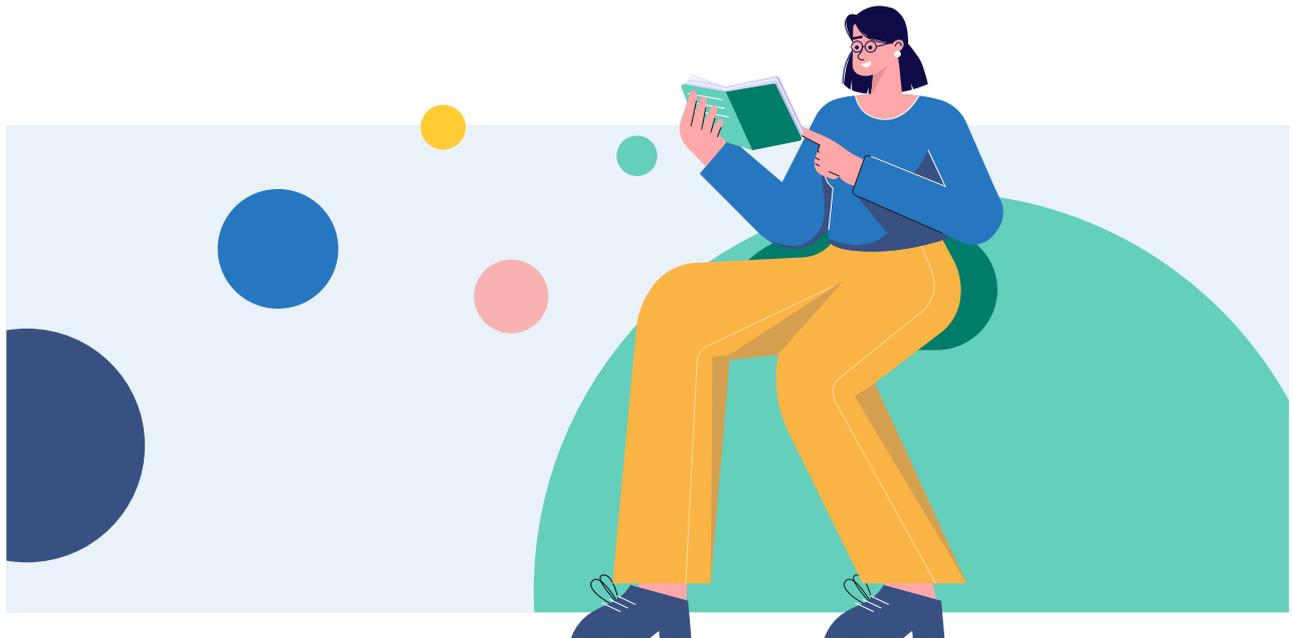
What every Data Leader needs to know about Data Products

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In today's digital age, data has emerged as the new currency, transforming the way businesses operate and make decisions. The abundance of data generated through various sources presents both opportunities and challenges for organizations. To navigate this data-rich landscape, businesses are increasingly turning to data products. In this guide, we'll explore:

- What data products are
- How they benefit businesses
- Examples of data products
- Key considerations when adopting data products
- Critical success factors for data products
- How to get started with data products

What is a data product?

A data product is a high-quality, easily consumable data asset that relates to an entity such as a customer, product, employee, or location. It gives a 360-degree view of the entity which is accessible across the business to different teams and can be applied to different use cases.

Data products integrate data from relevant source systems, process it and ensure that it is accessible to anyone with the right credentials. It should also provide governance information such as the owner and lineage of the underlying data.

How data products benefit businesses:

Organizations that have embraced data products benefit in a number of ways:

Time and cost savings:
When data is packaged as a clearly definable product and leveraged by multiple teams and stakeholders, data stewards and domain experts don't need to spend time discovering, categorizing, and processing data themselves. Not only will this save time and money, but it also reduces duplication of effort, the likelihood of creating data silos, and governance challenges.

Accelerating time to data value:
According to McKinsey & Co., data products allow new business use cases to be delivered up to 90 percent faster than traditional, "data project" style approaches. This is because once the data asset has been created, it can be reused again and again.

Better Decision-Making:
In order to be most effective, data products should be built on data that is continually refreshed and enriched. The real-time accessibility of a data product means that insights are more timely and relevant, which in turn leads to more impactful data-driven decisions.

Improved Customer Experience:
Data products empower businesses to understand their customers better. By analyzing customer data as a unified asset, multiple teams within the business can gain insights into preferences, buying patterns, and pain points, enabling them to personalize products, services, and marketing campaigns. This leads to improved customer satisfaction, loyalty, and increased revenue opportunities.

Data governance and integrity:

When implemented correctly, data products deliver datasets that are both accurate and compliant, with the appropriate access controls and governance information. In addition, data products can be automatically audited, logging every time the dataset is accessed or modified. This consistency and transparency help to foster trust and confidence in the data itself and the insights it provides.

Competitive Advantage:

Organizations that leverage data products gain a competitive edge. By harnessing the power of data in near-real time, businesses can uncover hidden insights, respond swiftly to market changes, and adapt their strategies to stay ahead of the competition.

Continuous Improvement:

Data products facilitate a culture of continuous improvement within organizations. By collecting feedback and monitoring user interactions, businesses can iteratively refine their data products, ensuring they align with evolving needs and preferences. This iterative approach drives innovation, fosters customer satisfaction, and strengthens customer relationships.

Examples of data product use cases:

Sales forecasting:

Sales forecasting tools use historical data and current trends to predict future sales. This information can be used to allocate resources, set budgets, and make strategic decisions.

Customer acquisition and retention:

If you can understand your current customers better – in terms of their preferences, behaviors, and interactions – then you stand a far better chance of identifying and appealing to your future customers. A 360-degree view of the customer will help to predict the likelihood of customer churn, in real-time, as well as offering opportunities to prevent it.

Patient care:

Historical and current data relating to a group of patients can help healthcare teams to predict how likely a patient is to develop complications or be readmitted to the hospital.

Product development:

Data products help product development teams to create product roadmaps based on user insights, performance analytics, and costs. This helps to inform decision-making, prioritize feature development, and align product goals with business objectives.

Supply chain management:

Leveraging data products can improve visibility across the supply chain, by providing near real-time data on inventory levels, transportation times, and demand forecasts. Teams can also use data products to optimize inventory levels by providing insights into demand patterns and supply chain constraints. This can help to reduce the cost of carrying too much inventory or running out of stock.

Critical success factors for data products:

Before an organization embarks on creating data products, there are a number of key considerations and foundational elements that need to be in place. They include:

High-quality Data:

Data products heavily rely on high-quality and relevant data. Ensuring data accuracy, completeness, and integrity is crucial for obtaining reliable insights and making informed decisions. Establishing robust data governance practices, implementing data quality controls, and regularly monitoring and validating data sources are critical to maintaining data quality.

Clear Use Cases:

Clearly defining the use cases and goals that the data product aims to achieve is essential. It ensures alignment between the data product's development and the strategic priorities of the organization, and helps to bridge the gap between the line of business and technical/data specialists as all parties will need to speak the same language.

Management and funding:

Successful data products require dedicated data product managers with a broad range of data management, DataOps, analytics, and application skills. Their remit includes the entire data product lifecycle, from initial research and development, testing, and user acceptance, to determining the long-term product roadmap and promoting data literacy across the organization. They should also possess a commercial mindset, and be able to clearly align data product use cases with desired business outcomes.

Stakeholder Collaboration and Support:

Collaboration and support from stakeholders across the organization are vital for the success of data products. Engaging business leaders, executives, and end users from the early stages of development fosters alignment, secures necessary resources, and ensures that the data product addresses their needs and solves real business challenges.

Iterative Development and Continuous Improvement:

Data products should be developed iteratively, allowing for incremental improvements based on feedback and changing requirements. Adopting agile development methodologies facilitates a responsive and adaptive approach, ensuring that the data product evolves over time to meet evolving business needs and user expectations.

Data Governance and Compliance:

Implementing proper data governance practices and ensuring compliance with relevant regulations are critical success factors. Organizations must define data access controls, privacy policies, and data handling guidelines. Adhering to data protection regulations, such as GDPR or CCPA, builds trust with users and protects their privacy.

Measurable Success Metrics:

Defining measurable success metrics and key performance indicators (KPIs) is essential for evaluating the effectiveness and impact of data products. Metrics can include business outcomes, user engagement, ROI, or operational efficiency improvements. Regularly monitoring and analyzing these metrics helps identify areas for improvement and demonstrates the value of the data product to stakeholders.

Key considerations

In addition to the benefits above, there are also a number of considerations that need to be addressed before embarking on the data product journey.

1. Data products can be expensive to build and maintain. They often require specialized skills and expertise that are not always readily available. The key here is to start small, with a sample use case, and accept that it's probably not going to be a perfect product from day one. The important thing is to get started.

2. Data products can be difficult to maintain over time. Data products are built on top of other systems and data sources that may change. As a result, it can be difficult to keep the data product up-to-date and ensure that it continues to provide accurate information. A master data management platform that delivers a consistent pipeline of reliable, accurate, and compliant data is vital to addressing this.

3. Finally, data products can also be hard to scale. This is because data products often require significant infrastructure and resources to support them. Again, the recommended approach is to start small, prove the value, and build from there.

Conclusion

An increasing number of organizations are developing data products as a means of delivering commercial value to both internal and external customers. Aside from benefits such as empowering data-driven decision-making, enhancing customer experiences, and improving operational efficiency, this approach also helps developers and users alike to focus on specific use cases and desired business outcomes as the value of data is packaged and presented as a complete offering.

However, before attempting to deliver data products, organizations must ensure that they have a reliable data foundation to start with. Like all digital transformation initiatives, poor-quality data that is inaccurate, incomplete, and/or stale will significantly impede a successful outcome.

Systems of record	Data platform	Data products	Consumption archetypes	Use cases
Core processing systems	Data warehouse	👤 Customer	Digital applications	Online fitness app
External data	Raw data lake	🏢 Supplier	Advanced analytics	Health portal
Unstructured data	Master Data Management platform	📦 Product	Reporting	Predictive churn model
		👤 Employee	External data sharing	Operations report
		📍 Location	Discovery sandbox	Public health data ecosystem
				Data exploration

—— Flow of data