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## What Capital One learned from years of data transformation



*Biba Helou, senior vice president of Enterprise Data Platforms and Risk Management Technologies at Capital One, shares how to increase the usefulness of data.*



Managing enterprise data gets more complex every day. As companies move their data ecosystems to the cloud, they encounter way more data, coming from way

more sources with more need to analyze it quickly. This is way too much work for a central team without creating a bottleneck.

Reaching a state of effective data management is an urgent matter. Getting the data piece right is essential for businesses to pursue things like using machine learning and artificial intelligence to personalize customer experiences. It also requires an understanding of the different users and use cases, and building self-services experiences to enable data teams to accomplish their tasks.

## **What do you build first? Listen to your developers**

While the cloud provides access to data from more sources, it also causes challenges in managing the exponential growth in data stored in different places, and meeting the demands of users with a variety of use cases. The sequence of the path forward will come from asking your developers and data scientists what they want to do. Your priorities will become more apparent when you understand how people consume and apply your data. Dormant data delivers no value.

Just as web and product designers focus their resources on nailing the user experience (UX), we place our business data owners front and center in the data management process by treating data as the product. We ask them about their requirements and build self-service experiences from there. We dive into their personas (as if they were consumers) and their use cases and design the system to make it easier for them to manipulate and analyze the data the way they need it.

User-centric principles embody Capital One's data management ecosystem, where our data analysts can quickly search for the data they need, evaluate its trustworthiness, and experiment with new products for customer campaigns. For data teams to operate effectively, you must give producers, consumers, data risk managers, and the underlying platform teams who manage the infrastructure one place to do the work.

That ecosystem has the tooling and policy built-in, so the data producers know they adhere to the guidelines. Data analysts and scientists know where to go to find the data they need, and the data platform engineering team doesn't have to hire an army of people to manage this ecosystem because we put in a UI layer and data infrastructure system that lets the federated data management teams do way more.

In moving our data to the public cloud, we scaled our operations quickly, improved our agility, and stayed on the leading edge of data management practices. But at the same time, moving data to the cloud also doesn't alleviate the need to continually evolve the data creation pipelines because of the sheer amount of data and new uses that spring up almost daily.

Until we launched the self-service data management capabilities, data teams may have waited weeks or months to access certain data sets. Now, access is almost instantaneous—a process well-suited to their persona. When you make it easier for data scientists to access previously siloed data, you unlock creative possibilities for developing data-driven products such as a better rewards program, expanded customer offers, and improved program management.

Here are some of the significant lessons we've gleaned from the experience of transforming our data resources:

- **Understand your data footprint.** In the age of big data, it's a misnomer that every dataset is important. Some data does not need to be there. Take control over data growth by closely monitoring what data you're taking in and how you're enabling it to grow. In moving to the cloud, we needed to build many of the services and systems that allowed us to manage our data and make it useful.
- **Automate everything.** Moving to the cloud can strengthen your agility by automating your stack, making data access more self-service, and providing more developer-friendly visual formats. Automating your data catalog's discovery, classification, and metadata population will prove highly efficient. But perhaps the biggest payoff for automation is how it applies to data governance—enabling organizations to use dynamic provisioning and customized workflows.
- **Be risk-ready.** Not all data sets are created equal. Some data sets may require a sloped, tiered governance strategy with greater metadata curation policies, while others may require much less curation. Build governance and risk management from the start to avoid losing momentum and creating risk later on. If you don't stay on top of risk, it will consume increasing amounts of your time and resources.
- **Set standards for data management.** Real-time data access raises the bar for data management, introducing management complexity and the need for robust data architecture. Stand up a center of excellence, set some standards,

and organize principles such as what kind of metadata is valuable for your business. Not every stakeholder seeks the same metadata, for example, but you can ensure that everyone knows who owns the data, who is accountable for it, and who may access it.

Forrester contends that "organizations need to have a robust data management foundation to succeed in digital transformation." We couldn't agree more and are constantly working to increase the usefulness of our data—making it easier to access, manipulate, analyze, and apply to our products. It's satisfying work to make life a little easier for data management pros and decision-makers, but the real win comes from using that data to get closer to customers and make their lives easier.

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