Forbes insights

DATAOPS:

Moving Financial
Services Organizations
Into The New
Economy

Introduction

There has never been a more uncertain—yet more promising—time for financial services organizations.

Global transactions now occur at blinding, subsecond speeds. Money and payments are digital, with the use of paper checks and currency rapidly disappearing. There's a pressing need to engage one-on-one with customers. Technology companies, from the bustling fintech sector to the mainstream tech giants, are building new ways for consumers to achieve value. Add to this a surge of regulations and mandates that require financial services providers to be fully cognizant and in control of their data, and how it is used.

"The financial services industry faces a perfect storm as they're looking to manage an enormous number and variety of data sources," says Diane Saucier, senior solutions marketing manager for financial services at Hitachi Vantara. "They have an increasingly competitive market, especially with the entrance of the big tech firms into what have been their traditional customer relationships. And they're facing constantly changing regulations. For those institutions to survive and thrive, they really need to look to innovative and agile solutions."

To meet today's challenges, financial services organizations are looking to bring data resources together in a way that "seems seamless to the customer," says Daniel Knight, chief technology officer for global financial services at Hitachi Vantara. "They're trying to create highly personalized customer experiences. They're trying to understand their customer through user segmentation and targeting. They'd like to optimize their existing processes through automation. They seek to increase cybersecurity and achieve better risk management."

That's why financial services executives need to rethink their approach to data and create new ways to identify, secure and flow high-value information through their organizations. An emerging practice, data operations—or DataOps—will do just that.

What Is DataOps?

DataOps is a way of organizing data flow so it is timely, validated, monitored, tested and accessible, on a continuous basis, to the financial services organization.

DataOps changes the game for risk management, as well as customer understanding, acquisition and retention by ensuring greater accuracy for next-best action decisions. DataOps also paves the way to better meet regulatory requirements and ultimately helps financial services organizations compete in today's highly competitive, complex environment.

DataOps is similar in philosophy to DevOps (development operations), a popular approach in which development and operations teams closely collaborate to deliver software on a continuous, standardized basis. While DataOps has been around for some time in one form or another, advances in technology solutions and practices make the timing right for deployment across today's organizations.

"The time is right for DataOps, as we have a high degree of sophistication in technologies, coupled with real methodologies and real processes," says Dr. Claudia Imhoff, CEO of Intelligent Solutions and co-author of a series of data management books.

DataOps —the convergence of data and operations management— **is a framework of tools and culture that facilitates rapid, comprehensive and curated data to users.** It is intended to deliver collaboration and agility across enterprises, bringing together technical and business disciplines focused on supporting data-driven initiatives, including data engineering, data integration, data quality and data security teams.

Data Is The Center Of Gravity

DataOps frees data from silos and constraints that have built up for years within financial services organizations.

Within this data-rich industry, information moves through many touchpoints as it is accessed and leveraged. This journey typically starts with customer data flowing through various points within a bank, such as front-office, middle-office and back-office transactions, as well as operational, risk and settlement systems. DataOps is a response to the recognition that data needs to be the "center of gravity" for financial services priorities, says Knight. "Financial institutions need to follow a path that's been forged by other customer-centric organizations to be able to deliver more 'right-now' experiences and give customers what they want."

DataOps provides visibility to all the data in financial services organizations that has long been hidden away in silos, adds Nirvana Farhadi, global head financial services, regtech, risk and regulatory compliance affairs for Hitachi Vantara. "The operational infrastructure of incumbent brick-and-mortar banks are built on siloed, brittle behemoth legacy systems that are old and rigid and were not originally meant for today's technological advancements, nor the increase in the number of diverse data sets firms are ingesting today. These systems had been built for specific purposes that were relevant to the business problems of yesteryear."

"The challenge for organizations today is ensuring that they have a solid grasp of all their data, be it structured, unstructured, dark data, toxic data, pink or blue," Farhadi continues. "It's essential for the silos to be broken down, and to know where the data is in a centralized or, better yet, distributed manner so banks can provide customer satisfaction and customer outcomes competently and comprehensively."

The financial services industry is a heavily regulated sector with complex preexisting governance requirements in place as to how data is accessed, used and distributed. This has now been further complicated with new emerging data privacy laws that have added additional regulatory burdens.

"Banks have to verify data from its origin and throughout its full lifecycle," says Knight. "They have to show and prove against an auditor who will be scrutinizing how the data is used to make decisions, and they **have to be able to maintain that data to a very high standard**."

The Benefits Of DataOps

There are a range of benefits financial services organizations will see as their DataOps initiatives progress and information management is moved to a new level in terms of flexibility, quality and accelerated time to market.

A recent survey by 451 Research found that this year, 86% of respondents plan to increase investment in DataOps strategies and platforms, and 92% expect this strategy to have a positive impact on their organization's success.[1]

Here are some of the key advantages DataOps will deliver:

1 "DataOps Lays the Foundation for Agility, Security and Transformational Change," Matt Aslett, 451 Research, February 2019. https://www.delphix.com/sites/default/files/2019-02/10564_Advisory_ BW_Delphix.pdf

Enables big-picture thinking that provides greater transparency, clarity and views of information.

Typically, in multifaceted financial organizations, people only see a glimpse of the information they are working with and often don't have a sense of its lineage or implications. Financial services organizations typically have many components, with differing needs for the data that flows through them. "Banks consist of many legal entities put together," says Knight. "There may be a mortgage division, a credit card division, a wealth management division and different trading desks. In the course of a transaction, a piece of data may go through 15 to 20 product sets in a bank."

As a way to move data in a standardized, consistent manner, DataOps will "bring the data supply and the data consumer together at the same time," he says. "In a large company, you may only see a piece of the pie. By providing automation tools, DataOps elevates everyone so they can see the bigger picture."

Enables greater market intelligence.

With a DataOps infrastructure in place, financial services organizations can take advantage of innovative data-intensive strategies. For example, a number of leading institutions engage in a practice called "social listening," Knight says. "That's data that they're bringing in from the outside world, using techniques like sentiment analysis. They're sourcing actionable insights from user activity on social networks, and as a result, the bank is able to respond to the customer fairly quickly."

Promotes continuous improvement.

DataOps automates data management and supports continuous integration as well as continuous deployment of data-rich applications. A way to look at DataOps is to think of how the lean revolution helped automate and improve the quality of products in manufacturing, according to The DataOps Cookbook, which also posits that "DataOps adopts key concepts from lean manufacturing. It views data analytics as a continuously operating pipeline, which can be automated, monitored and controlled."[2]

Facilitates customer and internal user self-service.

User experience, both for customers and internal end-users, is a critical competitive differentiator in the financial sector. This is a key area where DataOps can make a significant difference. To enable customer self-service—which allows consumers to manage their accounts and provides the ability to evolve superior end-user experience—DataOps can be designed to more seamlessly provide data access to qualified end-users using ATMs or mobile banking apps.

For internal end-users, the ability to access and analyze real-time data flowing from multiple sources is critical. DataOps enables employees and partners to act on analytic insights, freeing these end-users from the constraints of IT departments and siloed applications.

Creates a better environment for security and compliance.

With the transparency and consistency DataOps brings to the way data is sourced and moved through enterprises, DataOps helps ensure that data practices are in greater compliance with regulatory mandates, laws and industry guidelines. The 451 survey shows "greater security and compliance" as the leading advantage from DataOps.

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2 *The DataOps Cookbook: Methodologies and Tools That Reduce Analytics Cycle Time While Improving Quality,* Christopher Bergh, Gil Benhiat and Eran Strod, DataKitchen, 2019. http://www.todobi.com/2019/07/the-dataops-cookbook-free-download.html

Getting Started— And Moving Ahead

As with any transformational effort, moving to DataOps is a journey with many considerations.

Not only does technology need to be modernized but organizational thinking and priorities also need to be adapted for this promising new environment that will flourish within financial services organizations.

Here are key considerations for beginning or continuing on the DataOps journey:

Encourage collaboration between data teams— data scientists, analysts, administrators—and other parts of the enterprise.

DataOps is an *enterprise* data initiative, meaning that it touches everyone's jobs in one way or another. "Collaboration doesn't always come naturally in financial institutions, which are often designed to encourage internal competition. But it's the key to success with DataOps," says Saucier. "For it to work, it needs to extend across all the silos and different organizations that make up a bank—all the way to senior management."

Identify and seek the needed skills.

DataOps involves many different roles, within both the data management and business sides of financial services organizations. "We need data engineers, data analysts and data scientists," Imhoff says. "They are developing a data architecture, and need to ensure that the best data is delivered in time and in the right format. They also have to design, develop and test production environments. They do the groundwork, moving data from operational systems into data lakes, data warehouses, repositories or wherever else it is needed. They have to understand the technology, they have to abide by the governance rules and they must be aware of other projects going on around them." DataOps also requires expertise in artificial intelligence, machine learning, analytics, data and enterprise architecture, along with project management.

Establish an enterprise-focused strategy.

Any DataOps initiative needs to start with an understanding of the business challenge or opportunity being faced. "Think about the problems you're facing today that can be addressed by automating your data operation process," Imhoff says. This needs to be followed by planning a DataOps architecture. "You need to understand where the data comes from, what we're going to do to it and where it's going to go," she adds. Importantly, an enterprise-focused strategy will help avoid the risks of multiple and redundant DataOps efforts.

Become service-oriented and containerize.

DataOps brings speed and, aided by container technology, provides flexibility unencumbered by underlying technology limitations. "The goal is to make data streams more efficient and effective from a business standpoint," says Imhoff. "If we can reuse and containerize our data streams, then we're going to make it a much more efficient process. We can get data into production faster, with the lineage and the data quality processing standardized. It will run more smoothly, and the data can be changed more quickly." Reuse of data streams presents an alternative to DataOps teams going in their own directions, she adds.

Stay focused on customer satisfaction and customer experience, both internal and external.

By standardizing information flow, DataOps can help financial institutions bring about a customer-first approach to financial products as well. "Modern products are not developed with the focus being the company first, but rather the customers first," says Knight.

Strive for an analytics-driven culture.

This often requires "a change in mindset through education and awareness building," says Farhadi. "Many financial organizations are encumbered and institutionalized by legacy thinking, so change is frightening. Collaboration between lines of business stakeholders and technology is key. More of a vision is required; if they're not careful and if they don't operationalize data, it could ultimately be the thing that ends up burying organizations."

Bake governance into DataOps initiatives.

As DataOps is "a collaboration of key stakeholders along the business who have skin in the game," good governance is essential, says Farhadi. This is especially vital in light of the fact that many stakeholders need to answer to auditors and government agencies.

To accomplish this, manage DataOps initiatives in the same manner as other important enterprise engagements with project management approaches, Imhoff recommends. "DataOps can't be a single monolithic team doing it all; that's never worked," she says. "That becomes a bottleneck as the data pipeline may have multiple branches and multiple owners. Every DataOps effort is a project in itself, with a business problem and an end."

Monitor and test your DataOps.

Ongoing testing is a critical component of DataOps efforts. "You need to test what you're doing because it's somewhat of a black box," Imhoff cautions. "We need to understand what's going on inside of the box. As data comes in, is it free of issues, and is the business logic based on the data as sound as it could be?"

The impact of DataOps on financial services organizations can be profound.

DataOps enables an organization to efficiently employ its data resources to better understand customer requirements, analyze transactions and improve the customer experience. In the process, data is enriched and updated on a continuous basis. This is a critical step toward achieving a customer-first approach that is key to succeeding in today's fast-changing, competitive environment.

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