



BUSINESS INNOVATION AT THE SPEED OF LIGHT **WITH DATAOPS**



INTRODUCTION



Today's digital economy is always on, connected, and learning, and the common thread at the center of all these elements is "data."

As one former President and CEO of Yahoo once said, "with data collection, the sooner, the better is always the best answer."

At KX, we're experiencing that the companies leading the pack in the new data frontier are those who understand best how to harness the power of their business data and act on it when it matters - in the moment.

**THE QUESTION IS,
HOW DO THEY DO IT?**

Well, at the core of any modern data landscape is "DataOps," a mature framework that has fast become an integral part of the strategy behind any data-driven or insights-driven business.



WHAT IS DATAOPS?

The term DataOps (data operations) has gathered significance across the data landscape since 2014. As companies invest in an ever-increasing number of sophisticated tools and expertise to manage their business data, DataOps has fast become an agile, process-oriented approach for developing and delivering faster, more reliable data-driven outcomes at scale.

It connects DevOps teams with data scientists and data engineers to provide the tools, processes, and organizational structures to support a modern data-focused enterprise.



Michele Goetz, Vice President, and Principal Analyst at Forrester, defines DataOps as “the ability to enable solutions, develop data products, and activate data for business value across all technology tiers from infrastructure to experience.”⁽¹⁾

DATAOPS vs. DEVOPS, WHAT'S THE DIFFERENCE?

So, what's the difference between the two? While both are methodologies for driving best practices, they each have their unique place inside an organization.

As technologists, we're familiar with the concept of DevOps, an agile methodology and framework designed to accelerate application and software development and roll out in a digital business. However, DataOps brings a more data-centric approach to the DevOps framework, adding to this methodology the power and capabilities of a more data-focused approach through data scientists, data engineers, and data citizens who support the data landscape to build more value from data. The two can work in tandem with one another but what is common between the two is people, processes, and technology that ensure an agile framework and operating model. Fundamentally the goal of DataOps is to deliver new insights with increasing velocity.

HOW TO APPLY DATAOPS

DataOps is not a single technology solution or an exclusive industry best practice or guideline like DevOps. Instead, it is a comprehensive, methodical approach that identifies principles to manage data, operations, people, and processes.

The businesses that drive the most value from DataOps bring a single structure and discipline all under one roof, including aspects like data governance, data processes, data policies, and data management, then apply a consistent approach to everything connected like applications and infrastructure.





8 FUNDAMENTALS TO DATAOPS SUCCESS



1. DEMOCRATIZE YOUR DATA

Creating safe, secure, and reliable fast access to data and those who need it most is key to enabling your organization to accelerate its innovation from any data generated.



2. EMBRACE A DATA CULTURE

An enterprise-wide 'data culture' is essential. It enables and empowers organizations to use data to make better informed and faster business decisions and gets the right data in the hands of the right people at the right time to act on it when it matters most.



3. CREATE OPEN DATA SOURCES

Connect all your data sources and refine the data by combining disparate sources and enriching it with historical context – this will give you a stronger competitive edge to survive the new data frontier.



4. STREAMLINE & AUTOMATE YOUR DATA

Given the ever-increasing volumes of data generated, it is fundamental to streamline and automate processes around data capture, data curation, and data analysis to increase efficiency and output and create valuable datasets that make those who consume it successful at scale.



5. COMMUNICATE & COLLABORATE

As with any framework or methodology, how those within it communicate and collaborate is the difference between success and failure. Having open communication lines and process reviews between those at the center of a DataOps strategy is critical to its success.



6. BUILD IN DATA GOVERNANCE

Creating a strong data governance foundation with a library of tools and inspection measures is critical in any DataOps framework. However, it's also prudent to ensure strict data processes don't slow down innovation from those who need access to data. Make data available to developers and users who need it, and constantly review your governance processes, tools, and systems to ensure you're on track and compliant.



7. SET CLEAR GOALS & KPIs

Be clear about how you will measure the impact of a DataOps framework in your business. Set clear SLA's and KPI's around the performance of data, as well as the outcomes you're trying to drive from the data. Continuously monitor and review these with your data stakeholders to ensure you're continually meeting the needs of the business.



8. THINK FAST DATA

Those who drive fast, actionable insight from data will win the battle in the new data frontier. It's not enough to rely solely on historical 'big data' - it is matching this with data created in the moment. A well-defined DataOps framework will include the software tools needed to provide fast access to all data from a single platform. **Anytime, anywhere.**





HOW CAN KX ENABLE YOUR DATAOPS ADVANTAGE?

Ultimately, as digital transformation continues to drive and disrupt markets, we are entering an era where big ideas can be dreamt, developed, tested, and released in time frames previously considered near impossible. At KX we enable this speed to business value via KX Insights, our integrated data management and streaming analytics platform for real-time decision-making.

KX Insights provides out-of-the-box capabilities which accelerate the development, rollout and operation of data-driven insights. Using trusted technologies like Docker, Kubernetes and Keycloak, KX Insights enables organizations to standardize and, where possible, automate operational requirements like scalability, fault tolerance, and security using industry best-practices. That in turn allows users to focus on the business aspects of enriching, interpreting and quickly turning data into value, which is accelerated by several DataOps capabilities including:



- An intuitive user interface enabling developers to independently import, transform and query their data with a flexible visualization layer for further analysis, charting and graphing to unlock business value.
- Interoperability with popular technologies like SQL, Python and PostgreSQL which enable data scientists to continue working with their tools of choice and leverage their existing skillsets in data exploration and discovery.
- A metadata layer that decouples business-level taxonomy from its schema representation so that database changes do not affect end-user queries or require changes to existing applications.





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- An underlying microservices architecture that presents easily consumable, self-contained units of functionality in areas like data storage, data access and querying that can be quickly and easily orchestrated into applications. Removing the need for users to implement complex tracking and location mechanisms.
- The ability for end-users to create and maintain the data pipelines that define the data processing lifecycle helps streamline the development process and enables quick response to new business requirements.

Central to KX Insights is taking data from multiple sources – both real-time and historical - and combining them in a unified platform for deriving insights in ways that are most appropriate to the needs of the user – dashboards for exploration and discovery, familiar programming languages for advanced querying, reports for communication and regulatory compliance.



From the metaverse to autonomous vehicles, rapid vaccine development to the latest cryptocurrency exchange, they all have one unifying narrative. Success, or more accurately, the success of the individuals and organizations within and across them, is built on data. Much of that data will be generated and acted on in real-time via a well-thought-out DataOps framework.

TALK TO KX

At KX, we are constantly innovating to solve the toughest data challenges no matter what industry you are in. We built our technology and reputation in the most demanding data environments, helping our customers combine real-time data intelligence with rich historical context to power faster more informed business decisions. As the data landscape continues to evolve, our cutting-edge technology is now mainstream and a fundamental requirement for any DataOps framework.

To learn more about KX, talk to one of our real-time data specialists by contacting sales@kx.com or visit our website kx.com to prepare your business for the new data frontier.



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