Modern eBook

Uncovering and Driving

Growth for Distributors with Advanced Analytics

And How It's Done with DataOps

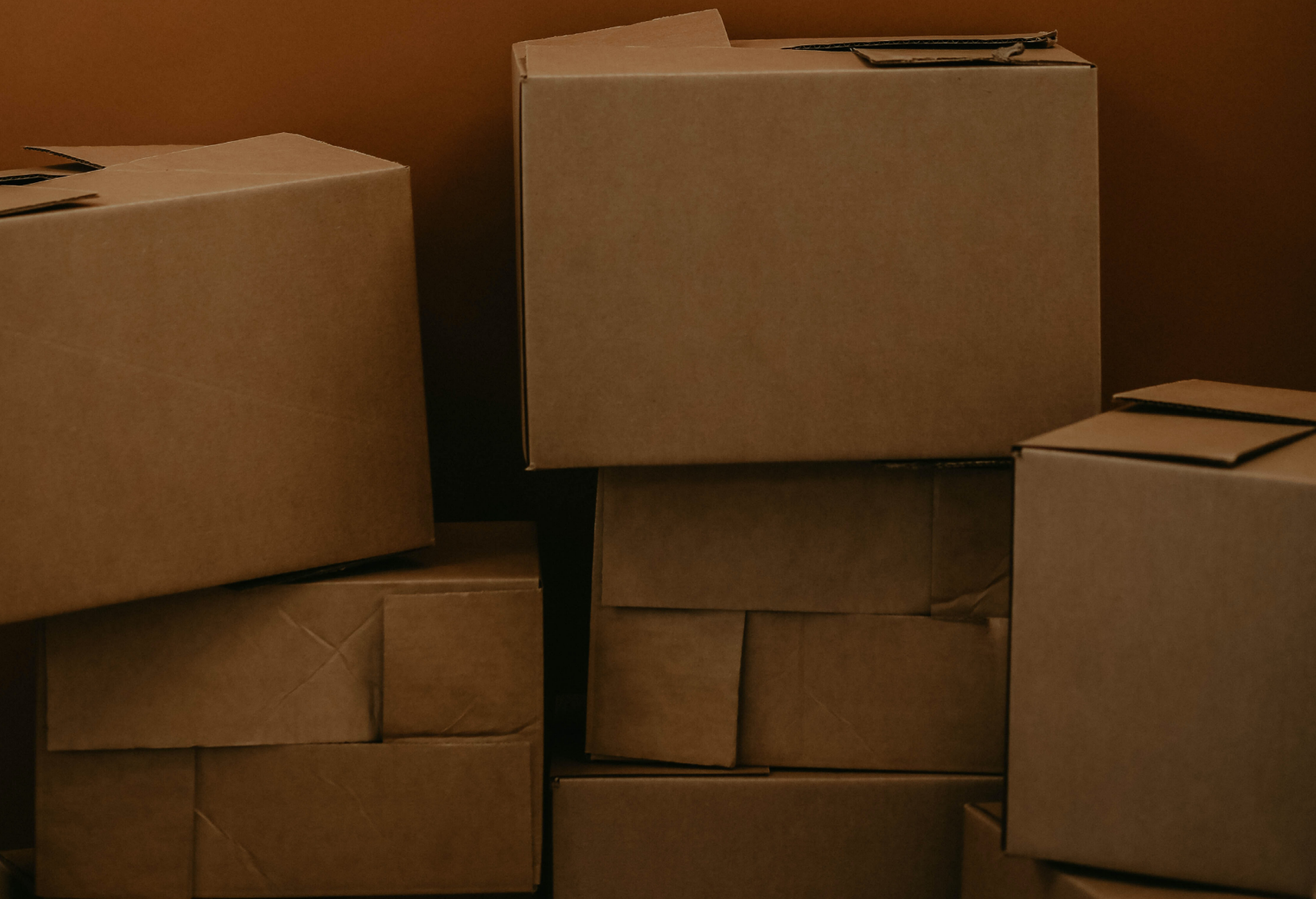

Table of Contents

TheModern DataCompany

The Modern Data Company
306 Cambridge Ave
Palo Alto, CA 94306
TheModernDataCompany.com
info@TMDC.IO

Distribution eBook

Distributor Challenges

Global disruptions have hit every industry over the past few years and distributors are no exception. While a handful has responded by seeking out ways to add more value through scale and seamless omnichannel experiences for customers, a large number of slower-moving distributors are struggling to stay afloat.

These disruptions will only continue to increase as companies rethink how they conduct business and consumers adapt their behaviors. The impact of new technology and global economic change on distributors looks like this:

- On one hand, manufacturers are exerting more pressure on distributors to improve efficiency. On the other hand, retailers are demanding more responsiveness. Tech disruptions can alleviate much of this pressure but finding the right solutions and then deploying across the entire business is a massive undertaking in itself.
- As manufacturers, retailers, and customers win leverage through consolidation, distributors can get cut out completely.
- Amazon and other new entrants—many with vast financial resources and digital capabilities—are providing customers with deeper insights and transparency into pricing which ultimately translates into negotiating power.
- Distribution businesses were not built with a younger generation in mind and it shows. Many struggle to attract and retain talent that can help them thrive.

The distributors poised to thrive in the years to come are the ones who can strategically increase their scale where it matters—and do so in a manner that sets them up to achieve the next level of business and operational excellence. They must continually provide more value to their manufacturing partners and customers while maintaining an edge over competitors with deeper pockets and specialized services.

Making big strategic moves is more difficult than ever in today's fast-changing environment and the wrong move can be incredibly costly. Distributors who leverage flexible and scalable digital capabilities to apply advanced analytics across their operational processes are best poised to consistently outperform in the years to come.

Applying advanced analytics tools, techniques, and organizational behaviors to business strategy and decision-making will deliver key benefits to vital areas of the business and its stakeholders. We've highlighted a few use cases in the next section. After reviewing these important applications of analytics in the distribution industry, we'll discuss how the scale and performance of these analytics can be enhanced through the adoption of a modern DataOps environment.

Advanced Analytics Use Cases

Supply Chain Visibility

From the production phase to the last mile distribution of goods, real-time visibility enables distributors to automate response protocols that provide customers with better delivery experiences and transparency into the status of shipments. This ultimately creates an efficient and responsive supply chain.

Predictive Analytics

Distribution businesses generate a massive amount of data on products, customer preferences, prices, inventory, etc. When utilized within predictive analytics, it becomes information that can provide valuable insights into multiple dimensions of business such as better understanding of customer profitability, amplifying marketing efficacy, streamlining inventory management, and improving demand forecasting.

Route Optimization

Route optimization is about finding the best route to get from one point to another, balancing costs, driver availability, speed, and other factors. It requires a variety of data points—from weather conditions to vehicle availability to GPS data—consolidated and fed into a model that predicts the optimal delivery route based on the practical constraints and assumptions provided.

Sales Empowerment

As more digital-savvy competitors enter the ring, it has become critical for sales leaders to quickly uncover business opportunities—a good portion of which may already be in their CRM. However, relying on IT to generate the right report to help them find these opportunities is often too time-consuming. And ultimately, the final product is a static report that cannot immediately reveal more information or context beyond what was requested. Advanced analytics can help automate and generate in-depth reports to identify new companies to target for your distribution services.

It only starts here. Leveraging data for analytics benefits every arm of a distributor's organization.

Marketing	C-Level Management	Finance	HR
Pricing strategy and optimization	Exit planning	Accurate financial forecasting	Diversity and compliance reporting
Market positioning	Product analysis	Risk reduction	Employee attrition risk assessment
Campaign optimization	Risk planning	Rapid financial reporting	Employee performance
Personalized offers	Better strategy planning	Fraud detection	Fast candidate assessment and screening

Scaling Analytics Through DataOps

Based on just the few use cases we shared, it's easy to see why advanced analytics including artificial intelligence, predictive analytics, etc. offers a big opportunity for the distribution industry. According to Verified Market Research, the global market size of artificial intelligence in just the supply chain market was valued at $4.8 Billion in 2020 and is projected to reach $14.3 Billion by 2028 (CAGR of 20.17% from 2021 to 2028).

That's great news in the long run, but it has also eclipsed companies' abilities to effectively scale their current processes and approaches for developing and deploying analytics processes. The fast-expanding adoption of DataOps is one way that distributors are trying to enable their scale to meet their demand.

To understand how to best scale analytics through DataOps, distributors need to understand some common barriers to scaling analytics, what DataOps is, and how implementing DataOps successfully within an organization adds value by addressing those barriers.

For example, it is widely accepted in the field — even today — that between 70% and 80% of time spent developing advanced analytics processes is still spent acquiring, cleaning, and wrangling data. To outsiders that might seem shocking, but it is the unavoidable consequence of companies managing their data in ways that are not friendly to advanced algorithms and complex computational requirements.

Common Barriers to Scaling Analytics

For many years, companies have struggled to unlock the full potential of analytics. One big cause of this issue is the inefficiency and lack of repeatability of traditional analytical process development and deployment methods.

Another major headwind for further progress is the often-painful, inefficient, and time-consuming procedures that are in place for deploying analytical processes once they are built. In many cases, a lot of custom work is required to take a proven prototype and deploy it into operational systems so that the process can be run at scale. Messy handoffs between the analytics team that builds processes and the IT team that deploys them are made worse by the fact that advanced approaches like artificial intelligence push the limits of what today's systems can handle. The combination of unusual complexity paired with massive processing requirements strains all aspects of deployment and management to their limits.

These same processes, once deployed, are often not documented well enough for long-term support purposes and can require substantive manual intervention to address the inevitable bugs or desired upgrades that are identified. The analytics team that builds processes also typically can't escape being an integral part of the ongoing management of those processes. This means that as more successful processes are completed, there is a higher and higher percentage of time spent maintaining and managing existing processes and a lower and lower percentage of time spent creating innovative new processes that will drive value. This is frustrating and demoralizing for analytics organizations while simultaneously being a misuse of high value (and expensive) resources by the company.

What Is DataOps?

DataOps is aimed at helping companies derive more value, faster from their advanced analytics initiatives by making the development, deployment, and management of analytics processes more standardized, automated, and scalable. It is a set of process-oriented methodologies that can take full advantage of the latest available technologies in combination with people who are open to changing some of their traditional ways of working.

DataOps focuses on automating much of the testing, monitoring, and maintenance of a process so that less time is required on all fronts. It borrows heavily from agile methods and DevOps approaches. The reason for the combination of agile and DevOps is because of the unusual requirements of advanced analytics processes. In a traditional DevOps environment, most of the processes being deployed and managed are fairly standard in their processing requirements, complexity, and consistency. With advanced analytics, things are much more fluid. In fact, many advanced analytics processes literally update themselves over time. This means that what works best for a process or set of processes today may not be the best tomorrow.

This is where agile methodologies come into play. By incorporating agile, DataOps recognizes the need for flexibility and rapid adaptability that goes beyond what most DevOps environments require. The rules in place are kept to a minimum so that adjustments can be made. These adjustments, of course, come with risks and implications of their own. By following an agile approach, DataOps teams can tackle challenges quickly and incrementally. However, there is no doubt that DataOps is a difficult and complex approach to implement.

In the end, DataOps implemented properly can help streamline the core phases of the analytical development process. This includes:

- Making the upfront data phases more efficient,
- Better standardizing the development phase,
- Streamlining the deployment phase, and then
- Automating the ongoing monitoring and maintenance phase.

A typical analytical process flow can be seen in Figure 1.

Scaling Analytics Through DataOps
(continued)

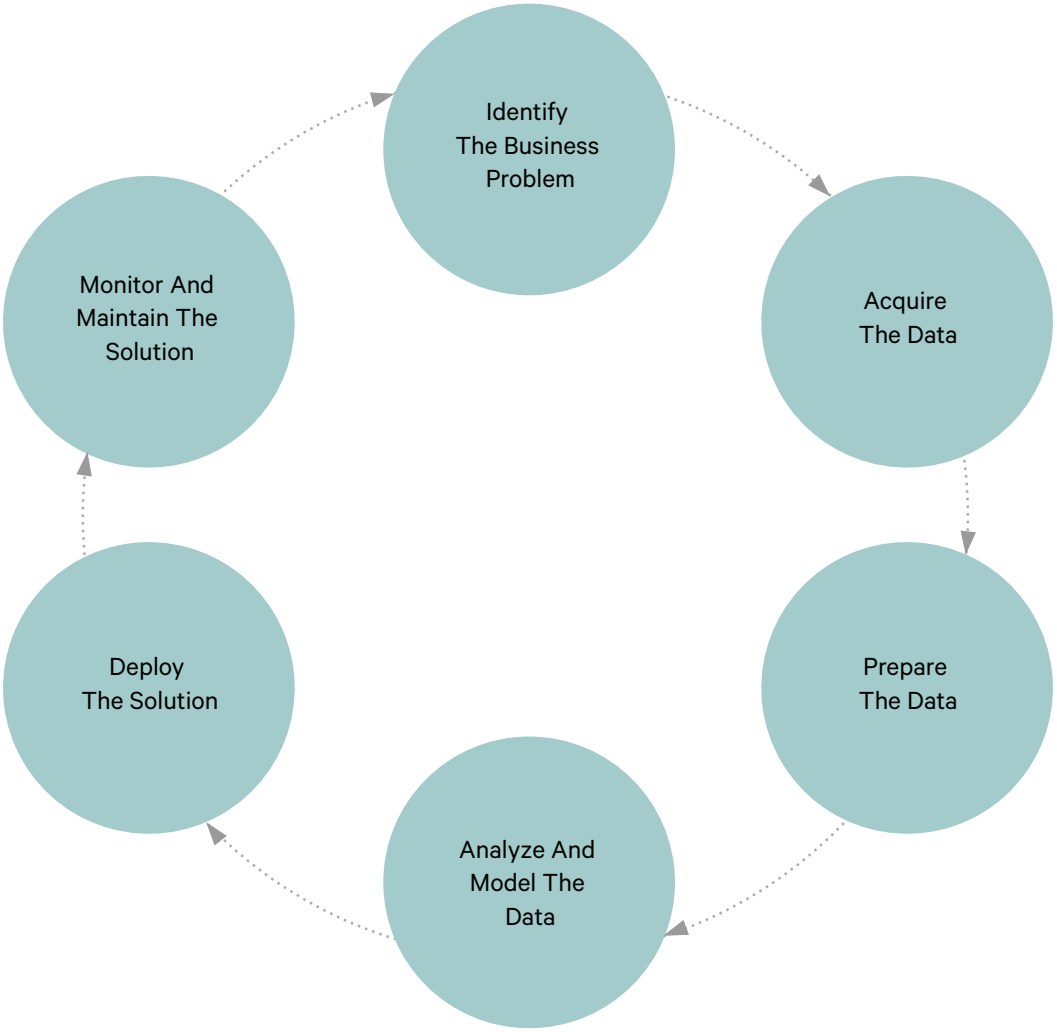

Figure 1. A typical analytical process flow

The Benefits of Implementing DataOps

Implementing a DataOps team, platform, and philosophy is not an easy task. Multiple teams that focus on distinct, but interconnected, disciplines will have to come together and coordinate effectively to make DataOps become a reality. This includes, among others, the core skills and people within the analytics and data science team, the data engineering team, and the IT and systems team. Each team must ensure their needs are met and each will be impacted by the DataOps processes and technologies that are implemented.

Scaling Analytics Through DataOps
(continued)

As discussed previously, even if robust DevOps capabilities already exist,there will still be significant work to do to implement DataOps. This is due to two primary causes. First, analytical processes are often more complex and less rigid than the typical processing managed by a DevOps environment. These differences need to be accounted for. Second, tools to support DevOps are evolving rapidly and there are some good solutions out there to help teams of all sizes get started. The same is true for DataOps, but DataOps is further behind on the maturity scale. As a result, distributors can expect more customization and bespoke development to get a DataOps solution implemented in the near future. Over time, as DataOps matures, this issue will lessen.

All the hard work can pay off in the end from a variety of angles, however. Having standardized data pipelines will make new processes more consistent and lessen the chance of major bugs. This also allows more rapid development of new analytics processes. At the same time, those building an analytics process will be aware of the standards they need to follow as they build, which will lead to more transparency and consistency across processes.

If your organization has increasing demands for analytics and is struggling to scale what you've got, you shouldn't be asking if you need DataOps today. Rather, you should be focused on how to get started implementing DataOps right away. DataOps is rapidly going mainstream and will be a critical component of any organization's efforts to better scale, govern, and automate analytical processes.

Cataloging each model and its purpose, as well as tracking changes made to it over time, helps tremendously with identifying outdated processes and keeping governance standards enforced. Finally, having automated processes to monitor and assess data quality and integrity along with analytical process output provides the ability to catch problems early.

Learn More.

Let's talk about data solutions that deliver business results.

Contact us at info@tmdc.io →

For more resources like this,
visit our Resources page →

About DataOS®

DataOS is an operating system that consists of a set of primitives, services and modules that are interoperable and composable. These building blocks enable organizations to compose various data architectures and dramatically reduce integrations. Enterprises can have the same data-driven decision-making experience akin to data-first tech companies in days and weeks instead of months and years.

About The Modern Data Company

Founded in 2018, The Modern Data Company began with the realization that enterprise-wide data access has been siloed. Data engineers and database administrators have been the longstanding data gatekeepers who funneled data to analysts and data scientists. We aim to change that by freeing enterprises to make better data driven decisions by democratizing access to data. When all employees, irrespective of their technical skills or background, can easily explore and analyze enterprise data, then both productivity and market expansion are realized at a faster pace.

TheModern DataCompany

Distribution eBook

The Modern Data Company
306 Cambridge Ave
Palo Alto, CA 94306
TheModernDataCompany.com
info@TMDC.IO