

Data-driven opportunities

Using data analytics and AI to transform your organization

ABSTRACT

This paper explores a path leading to data analytics and artificial intelligence, from understanding the vision to capitalizing on use cases for improving operational efficiency and transforming the business. The paper also highlights examples of platforms and solutions that help organizations consolidate data, deploy analytics environments and build AI systems.

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DIGITAL TRANSFORMATION TAKES FLIGHT

Welcome to the fourth industrial revolution: digital transformation. This is a revolution that is driven by data analytics and the techniques for artificial intelligence, and it is fundamentally altering the way businesses operate across all industries.

Business leaders understand the opportunity — as well as the new imperatives — brought by digital transformation. Consider these findings from a recent Dell Technologies-commissioned survey of 4,300 business leaders in 18 countries:

- 80 percent of organizations have fast-tracked digital transformation programs this year
- 79 percent are re-inventing their business models
- 89 percent recognize that as a result of disruption this year, they need a more agile and scalable IT infrastructure¹

As they recognize their digital transformation opportunities, business leaders are simultaneously focusing on the technologies that will make it all happen. For example, the same survey found that:

- 82 percent of respondents envision increased usage of augmented reality to learn how to do or fix things in an instant
- 85 percent foresee organizations using artificial intelligence and data models to predict potential disruptions
- 78 percent predict distributed ledgers — such as blockchain— will make the gig economy fairer (by cutting out the intermediary)

Successfully navigating in this new era requires a commitment from organizations to transform not only people and processes, but also to modernizing the environment upon which a business is built — from the edge to the core to the cloud. Data analytics and AI are at the core of these initiatives, and there are many opportunities for starting on this journey.

PLANNING FOR A JOURNEY

Building a data-driven organization using data analytics and AI to create insights is a journey. Before your organization starts down this path, it is essential that you gain a clear view of the road ahead, along with a clear plan of action for what you want to accomplish with your data.

To fully empower a data analytics journey, organizations must align data projects to business goals and measurable performance metrics. It's essential to define objectives, prioritize use cases for operational efficiency or organizational transformation, assess unique environments, and discuss how to strategically enable data solutions.

Based on your organization's priorities, data analytics can be focused on driving operational efficiencies or driving transformation. Operational efficiency use cases typically center on tactical goals that improve current productivity, such as accelerating reporting or improving service levels. Transformation use cases are concerned with more strategic goals, such as driving innovations that allow organizations to stand out from the competition, or building 360 views of customers to enhance the customer experience. Regardless of the focus, all of these use cases are based on gleaning deeper insights from data.

¹ Dell Technologies, [Digital Transformation Index 2020](#), based on research conducted by Vanson Bourne, 2020.

“We've been given a glimpse of the future, and the organizations that are accelerating their digital transformation now will be poised for success in the Data Era that is unfolding before our eyes.”

— *Michael Dell, Chairman and CEO, Dell Technologies*²

² Dell Technologies news release, [“Global Pandemic Accelerates Digital Transformation According to Latest Study from Dell Technologies.”](#) Oct 13, 2020.

To unlock the value of data, organizations must work to reach strategic phases in the data analytics journey. These phases include:

- Consolidating data with solutions such as data lakes
- Using data analytics to drive operational efficiencies and business transformation
- Enhancing the organization's ability to act on data by building cloud-native applications

Reaching each of these milestones in the data analytics journey puts your organization on a faster and more simplified path to building a data-driven enterprise.

BEGINNING THE JOURNEY

For organizations working to consolidate data to extract value from mountains of structured, semi-structured and unstructured data, the next step is to put the right data platforms in place.

For example:

- The Apache® Hadoop® platform offers compelling benefits for data storage and processing. Unlike other platforms, Hadoop can store any kind of data in its native format, from any source, cost effectively, and at very large scale, and it can do sophisticated analysis and transformations of that data easily and quickly.
- Dell EMC PowerScale network-attached storage solutions provide a solid foundation for data consolidation. They give you the ability to easily scale your storage environment while supporting traditional and next-generation applications and workloads.
- The Dell EMC Streaming Data Platform software on PowerEdge servers can provide a powerful platform for ingesting, storing and analyzing continuously streaming unbounded data.

This is just a small sample of the available analytics solutions that can enable your journey. Based on your organization's use cases, preferences and data volumes, Dell Technologies can work with you to help you find the best path forward for your organization.

CONSOLIDATING DATA FOR ANALYTICS

To enable data analytics, many organizations chose Hadoop as a foundational component of the analytics solution stack. Unlike traditional systems, Hadoop enables multiple types of analytic workloads to run on the same data, at the same time, at massive scale — all on industry-standard hardware.

Yet despite these tantalizing benefits, many organizations struggle with this step — either to begin the data analytics journey or to make Hadoop projects successful once they've begun. Organizations are often impeded by a lack of Hadoop expertise, and end up spending too much time and effort on the front-end work before they can get to the results of a fully operational solution.

Many organizations have discovered that both expertise and infrastructure matter when building a Hadoop environment. That's why Dell Technologies has teamed up with industry leaders — including Cloudera® and Intel® — to remove the uncertainty and barriers that may impede the deployment of a Hadoop environment.

DRIVING DIGITAL TRANSFORMATION WITH DATA ANALYTICS AND AI

There are two primary categories of data analytics use cases for organizations on the path to data analytics and AI: improving operational efficiency and transforming the business.

Here are a few examples of the many common use cases for data analytics, as well as questions the use cases can help organizations answer:

OPERATIONAL EFFICIENCY USE CASES			
Data warehouse optimization using ETL Offload How can we build faster, cost-effective access to data to improve service levels for better forecasting and increased automation? How can I reduce licensing costs?	Data repository What can we do with new data? How can we consolidate data?	Data exploration and analytics How can we securely extend data access across an organization to enable users to combine, compose and explore data to gain new insights?	Active archive How can we cost-effectively archive low-value data and move easily between storage tiers?
Network failure analytics How do we use machine-generated data to avoid IT outages?	System performance monitoring How do we proactively detect issues to prevent an occurrence?	Automate How can we increase automation across our environment? Is it possible to automate for compliance and reporting?	Threat analysis How do we detect threats and fraudulent activity?
TRANSFORMATION USE CASES			
Risk modeling How do we better understand and talk with our customers and markets?	Product improvements How do we learn from our customers?	Customer loyalty analysis Why do we attract and retain customers?	Customer attrition analysis Why do we lose customers?
Recommendation engine How do we predict customer preferences?	Ad targeting How do we increase the efficiency of ad campaigns?	Point-of-sale transaction analysis How do we target promotions to create the imperative to buy?	Trade surveillance How do we prevent market abuse and market manipulation?

ACCELERATING YOUR TRANSFORMATION WITH DELL TECHNOLOGIES

As you embark down the path to data analytics and AI, your organization can benefit greatly from ready access to proven solutions, backed by the services and the expertise to bring it all together in your environment. Dell Technologies can help you meet all of these needs.

Here are a few examples of the ways in which we help organizations leverage data analytics and AI across an enterprise.

READY SOLUTIONS FOR DATA ANALYTICS

[Dell EMC Ready Solutions for Data Analytics](#) provide a portfolio of engineered, integrated and validated systems for big data analytics. Consisting of high-performance Dell EMC infrastructure, these solutions have been designed to simplify deployment and operation of data analytics projects, calculated to lower costs and to deliver a strong return on investment, and optimized for performance and scalability.

READY SOLUTIONS FOR AI

[Dell EMC Ready Solutions for AI](#) include everything you need to accelerate your AI initiatives. Helping make artificial intelligence simpler, these pre-designed and pre-validated solutions are ideal for machine and deep learning, so you can get faster, deeper insights into your customers and your business.

DELL TECHNOLOGIES AND CLUDERA

[Dell Technologies and Cludera](#) work together to test and validate hardware-and-software solutions for organizations that want to capitalize on the capabilities of Apache Hadoop. These offerings include Dell EMC Ready Solutions for Hadoop, which have been engineered to work together and provide known performance parameters and deployment methods.

DELL TECHNOLOGIES AND SPLUNK

[Dell Technologies and Splunk](#) make adopting Splunk software simpler by jointly engineering a portfolio of purpose-built solutions with non-disruptive scalability and performance optimized for Splunk workloads. Together, Dell Technologies and Splunk enable you to harness the power of machine data analytics with the simplified deployment and scalability of Dell EMC Ready Solutions.

CUSTOMER SOLUTION CENTERS

To reduce the risk associated with new technology investments and improve speed of implementation, we invite customers to experience Dell Technologies solutions in the global network of dedicated facilities. These [Dell Technologies Customer Solution Centers](#) are trusted environments where world-class IT experts collaborate to share best practices, facilitate in-depth discussions of effective business strategies using briefings, workshops, or fully-supported proofs-of-concept, and help customers become more successful and competitive.

KEY TAKEAWAYS

To compete effectively in a data-driven business environment, organizations need to transform people, processes and the IT environment upon which the business is built — from the edge to the core to the cloud. Data analytics and AI are at the heart of this transformation, and there are many opportunities for starting on this journey.

For organizations on the path to data analytics and AI, Dell Technologies offers valuable expertise, services and solutions. Working closely with your organization and our partners, we can help you move forward from understanding the vision to capitalizing on use cases for improving operational efficiency and transforming the business.

Dell Technologies teams with industry leaders — including Intel, Cludera and Splunk — to remove the uncertainty and barriers that may dissuade an organization from deploying data analytics and AI solutions.



To learn more, explore [Ready Solutions for Data Analytics](#) and [Ready Solutions for AI](#).