

White Paper

Preparing for the Future of Data: The Data-to-Everything Platform Emerges

Sponsored by: Splunk

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IDC OPINION

As more companies make their technology architecture their business architecture, the need for business, IT, and security leaders to execute this idea has significant implications on their ability to drive revenue, increase profits, and digitally transform. The explosion of cloud technologies and Internet of Things (IoT), new organizational models such as DevOps and cloud centers of excellence (COEs), the increased use of Agile, and the need to apply real-time analytics to expansive data sets have never been more complex or important. Most traditional business intelligence (BI) models require master data management (MDM), involve extensive integration resources and costs, and don't drive automated actions. Just as important, they are disconnected from the foundational processes (e.g., problem, change, incident, and security) that deliver a great customer experience.

Traditional BI tools have a natural ceiling on their value proposition and business return. Managing these technology and organizational complexities requires a new approach called "Data-to-Everything." Executives should establish real-time platforms that empower business, IT, and security teams through the collection of real-time data from any source, the application of analytics and intelligence, and the ability to trigger automated actions that reduce business risks, improve security, and deliver collaboration that accelerates decision making and enhances the customer experience. With rising technology and organizational complexity, and the need to differentiate through faster decision making and automated actions, real-time capabilities are a requirement for modern business and IT.

IN THIS WHITE PAPER

This white paper examines the future of data and its impact on business and technology executives. It empowers executives with real-world examples of how some organizations are creating a competitive moat for their business by collecting, analyzing, and applying data and analytics to solve critical challenges, in real time across a variety of data sources, without the need for master data management or expensive integration requirements. Challenges include making it easier to collect and integrate vast sources of data in real time as well as applying innovative analytics and intelligence that drive business decisions and outcomes while enabling business, IT, and security teams to access the data and context-aware dashboards to drive automated actions and faster cycle times.

Executives increasingly understand the importance of delivering intelligence from the vast sources of data across an enterprise to drive sustainable competitive advantages for companies that use the technology across IT and business teams and understand the importance of applying

the right analytics to the right data. The extraction of value from various data sources in real time is now a business and IT requirement. The ability to present and visualize the right content (e.g., data) in the right context (e.g., role based) is a leading indicator of high-performing organizations. Providing access to collaborative teams across the business and IT is a critical success factor. Empowering these teams with automated actions can accelerate processes, driving efficient and effective execution. The deeper the level of understanding and trusted analysis across teams, the better an organization can become in driving enhanced customer experiences, improving product development, and enabling a faster time to market.

SITUATION OVERVIEW

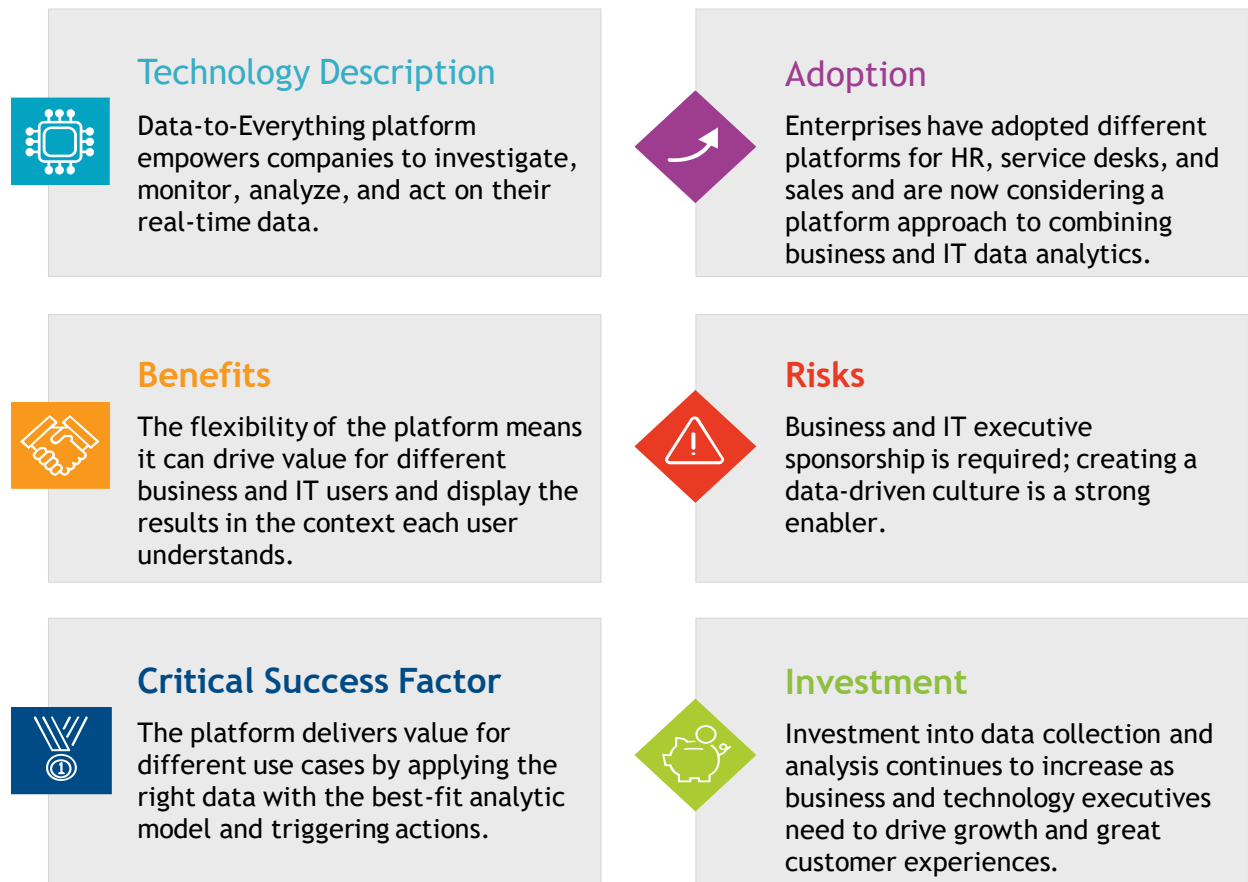
Executives are driving the adoption of data platforms to accelerate digital transformation initiatives that deliver competitive advantage and satisfy rapidly intensifying demands for speed, quality, and world-class customer experience. The pace and rate of change has significantly increased because of digitalization, emerging technology capabilities, new analytic models (artificial intelligence [AI], machine learning [ML], natural language processing [NLP], etc.), new organizational constructs (DevOps, IoT, software-defined infrastructure [SDI], Agile, compliance, etc.). If data is the new oil, analytics is the new well.

Executives face the challenge of collecting, integrating, and managing data in real time, from any source. As more sources of data are created from new technologies, devices, partners, and customers, understanding what to collect, and what pieces of data to correlate and analyze, becomes paramount to solving business challenges and extracting value. Eliminating the need for master data management, or reducing data integration costs, is an opportunity that a unified platform offers as it normalizes data from any source in real time. Besides collecting and analyzing data at scale, executives must also consider the integration between data analysis and operational processes such as problem identification and resolution and security to drive actions and faster decision making.

In the digital economy, everything is a data source. The future success of many businesses resides in the hands of executives willing to view everything as a data source and then understand the necessary platforms that can collect and apply the right analytics to the right data, for the right user, and at the right time. This leads to the emerging "Data-to-Everything" platform designed to bring disparate data from across an organization to every question, decision, and action, transcending technical and organizational silos. Figure 1 provides a snapshot of the Data-to-Everything platform.

FIGURE 1

CXO Snapshot of Data-to-Everything



Source: IDC, 2019

Data-to-Everything Platform

Data-to-Everything is more than just data and analytics. Data-to-Everything is taking a holistic approach that includes process automation and integration marrying the data and analytics to the right human processes (e.g., solving an application problem before it causes downtime, preventing a security breach before it happens, or providing a business executive with a customer dashboard that delivers updates on ecommerce activity and customer churn). The new reality is that executives must consider the intersection of the following: the fact that everything is now a real-time data source, the need for bespoke analytics, the ability to provide content with context across the organization, and integrating analytics with automation and collaborative processes. These four areas will drive competitive advantages as companies take the Data-to-Everything journey.

Everything Is a Real-Time Data Source

From security, applications, and systems to log files, IoT sensors, mobile phones, cars, airplanes, ships, and buildings, just about everything produces real-time data. These data sources offer executives a valuable opportunity to solve difficult availability challenges and understand more about

customers, their business, and the critical processes that drive revenue and profitability. If the technology architecture is the business architecture, then executives must have a clear, real-time understanding of the data that matters to them and how to best extract value from it. The ability to match real-time data with an explicit use case and associated key questions is critical to success. A Data-to-Everything platform enables an organization to extract the right information at the right time.

The Need for Bespoke Analytics

Everyone is talking about analytics, but what does it mean? There are many different types of analytic models (e.g., statistical, AI, ML, NLP, bots, correlation) for different situations and data pools. To enable speed and a high-impact outcome, the Data-to-Everything platform must be able to apply the right analytic model to the right data sets for a quality outcome. The reality is that certain data sets are more relevant for solving problems than others and pairing the right data and analytic model determines a high-quality, trusted outcome. This bespoke analytic model is differentiated and unique and dramatically reduces business risks on the enterprise because the platform is intelligent enough to choose the right real-time data and analytic model for each problem. For example, identifying an application performance problem requires a plethora of data and metrics, typically from multiple clouds, with correlation and pattern-matching analytic models. The platform understands what data matters and which analytic models to utilize to identify and solve the application performance problem. This delivers a more accurate, trusted outcome.

The Importance of Delivering Content with Context

The language of business is finance. IT executives have invested in understanding the relevant business metrics (e.g., revenue, profits, internal rate of return [IRR], return on investment [ROI], and customer satisfaction) that map to IT investments. However, the broader organizations that use a Data-to-Everything platform must be empowered with dashboards and data that speak to them in their own context. Across IT organizations, developers, cloud operations teams and architects, and infrastructure platform engineers have similar goals but different metrics and activities to achieve them. As these groups collaborate more and demand similar outcomes, they need to view data on their terms and in their own language. The same scenario exists within different lines of business (LOBs), as LOB managers typically use different metrics to gauge their success based on their current business situation.

Integrating Analytics with Automation and Collaborative Processes

A Data-to-Everything platform enables the analytic outcomes to be integrated with processes that connect teams to real-time opportunities to deliver outcomes that matter. An important part of improving customer experience or time to market is getting the right data to the right person at the right time to improve the decision-making process or automate an action. The integration of data, analytics, and processes offers faster and more automated decision making. As we are now in a multicloud world, process orchestration and automation become paramount to modern business and IT problem solving. Across IT and the business, human processes are at the foundation of every action and decision. Data-driven decision making is about having context with the data and making sure there are feedback mechanisms that drive an accurate decision. Gathering the right people, focusing on the right topic and metrics, collecting feedback, enabling process automation, and identifying the right outcome are all critical success factors. The integration and orchestration of communications processes with high-quality data analytics and automation can improve the speed and quality of decision making and keep the right people informed of actions. In the future, these processes could even trigger a set of automated actions based on business policies or conditions.

Data-Driven Decision Making

Business and IT executives have an increasingly intertwined set of complex challenges that will either increase their revenue and profits or create barriers to growth and transformation. These challenges include understanding the value and impact of various cloud providers, toll integration, and applying analytic capabilities to an exploding group of data sets that reside across the business and IT organization. There are different data sets that executives have traditionally viewed, as well as challenges that business and IT executives must overcome to collect, integrate, and analyze data pools from across business and technology data.

Data from many sources across business and IT can be used to drive efficiency, optimize processes, and gain revenue. Customers are undergoing a transformative evolution that is based on delivering better customer experiences, avoiding and averting security breaches, reducing and preventing service disruptions, and increasing revenue growth and profitability.

Much of the value rests on the fact that leadership teams must invest equally in the collection of the right data, the application of the proper analytics, and the real-time use of the answers that impact outcomes. Another key issue is the need for a "best fit" organizational design so that C-suite business leaders have full access to, and make use of, analytic platforms that deliver deep insights that drive better business decision making for specific use cases anywhere in the organization.

Why Business and IT Executives Should Consider a Data-to-Everything Platform

We operate in a world exploding with new data sources that are emerging every day: billions of interconnected devices across the internet, the use of multiple cloud architectures, IoT sensors, sophisticated technology architectures spanning legacy and modern environments, and countless application stacks. Data formats and sources include application, network, and server log files; GPS networks; security tools; edge hardware; software-defined infrastructure; emerging service mesh technology; call records; and web traffic from a plethora of sources.

Virtually every customer transaction creates new, valuable data at every stop in its life cycle. Every digital business process creates data that can be tracked, collected, and correlated. Most of this data is unstructured, not tracked, untapped, trapped in its own repository, and connected to nothing. Separately, these data and metrics are useless, but when they are collected and correlated with related data with analytics, the outcomes can drive valuable insights and trigger actions that increase the speed of business and growth.

CEOs and IT executives recognize that their ability to harness insights from their data is critical to competitive advantages and future survival. The opportunity that Data-to-Everything platforms provide can transform business models and increase customer intimacy to levels never seen. The possibilities of machine learning and artificial intelligence and other related analytic models rely on executive leadership teams that bring together business and IT expertise, clear use cases, and cultural norms that use and depend on data-driven decision making and platforms that deliver real-time insights into customer growth opportunities, higher profitability, and greater efficiencies across the business and IT. Business data and IT data increase in value as they are integrated together and can deliver real-time customer-impactful decisions that drive revenue growth and profitability.

What Makes a Data-to-Everything Platform Unique?

Data analysis is only as useful as the data being collected, the ability to correlate the various data pools to drive a meaningful answer, and the ability of the analytic engine to deliver an accurate, reliable outcome. The combination of assimilating and normalizing business and technology data in large volumes and variety, in vastly different formats, is a difficult challenge. Applying the right type of analytic model, one that is dynamic to adjust to the type of required answers, makes these almost impossible challenges possible to overcome.

A Data-to-Everything platform provides several opportunities for business and technology executives to solve these challenges. This includes considering:

- The reduction or elimination of the need for master data management; extraction, transformation, and loading (ETL); and context-specific business and IT dashboards
- High rates of data ingestion from across various sources and platforms and the variety of data collection capabilities from business and technology domains (It's important to understand how certain data and metrics map to a use case because data relevancy is important to real-time IT and business problem solving across security, operations, customer support, and line-of-business domains.)
- The dynamic ability to apply the proper analytic models (e.g., algorithms, AI, ML, deep learning, and neural networks) to data sets aligned with use case-driven questions
- The ability to have value-added applications for specific users such as business analysts, chief marketing officers (CMOs), strategy associates, security managers, site reliability engineers (SREs), infrastructure and operations teams, and automation managers, that plug into the common data collection and analytic engine, to be used as a common data pool to make better decisions, identify problems faster, and drive data-driven decisions
- The use of data analytics that can quickly set up proactive monitoring, trigger alerts, and enable analytics-driven process automation (e.g., auto-remediation) before the customer experience is impacted

Identifying Critical Success Factors and Metrics That Matter

A Data-to-Everything platform has the potential to impact the people, process, and technology that enterprises rely on to deliver business growth and transformation. It's critical that business and IT executives work together to create a consistent point of view on the critical use cases that will drive a high return on investment. Most executives believe that a single platform not only should deliver business results on its own but also, when integrated with other platforms, should amplify results across those platforms too. Figure 2 highlights three areas that drive success for a Data-to-Everything platform.

FIGURE 2

Critical Success Factors

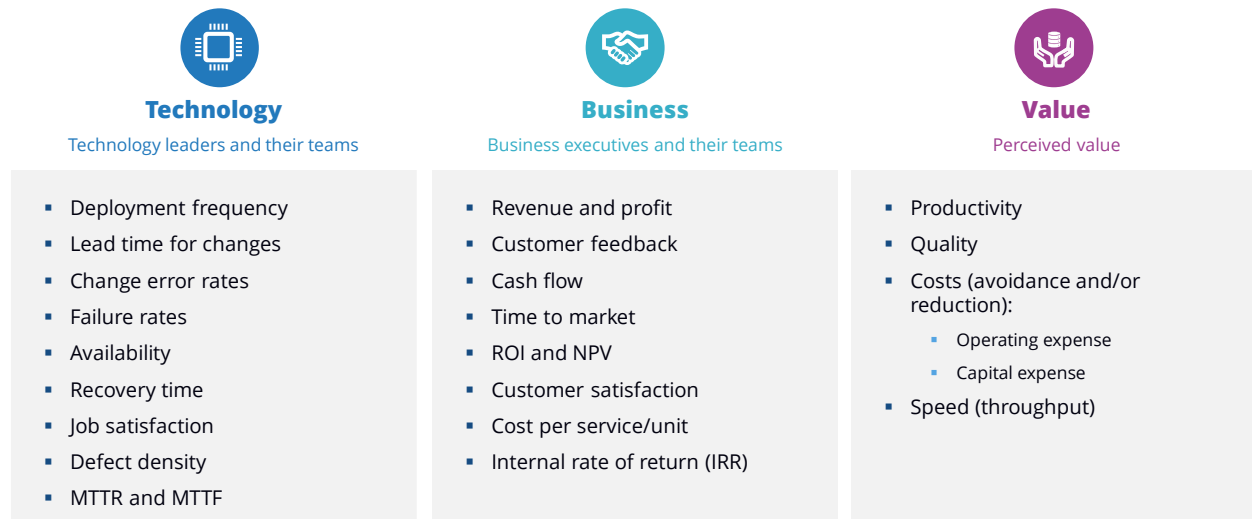
Critical Success Factor	Business Success Priority
People	Business and IT leaders must bring together the expertise across both functions and drive a high-performance culture that accepts and utilizes data-driven decisions. Develop use cases that drive the use of a Data-to-Everything platform.
Process	Data collection and analysis must be automated; human intervention at decision points is potentially reduced as automated processes increase. Data-driven decision making becomes the norm to optimize business and IT execution.
Technology	The use of various analytic models must be applied to the correlated data based on the use case expected outcomes. Applying the right data, with the right analytic model, will deliver unique insights and expedite business results.

Source: IDC, 2019

In addition, business and IT executives are increasingly using metrics to define their success and garner more budget for project success. The ability to effectively communicate which metrics matter to various stakeholders across a business or IT function is enabling executives to drive transformation and measure and gauge project success. Because a Data-to-Everything platform offers value across a plethora of different business and IT users in an organization, and can drive many different use cases, it's important to use the metrics that best fit each discussion. Business managers typically don't understand technology metrics but do recognize that technology can impact time to market or increase customer satisfaction. Executives should translate the metrics to drive an impactful conversation based on the audience. Figure 3 provides a summary of metrics that matter.

FIGURE 3

Metrics That Matter



Use the right metrics for each conversation

Source: IDC, 2019

FUTURE OUTLOOK

Use Case and Adoption Scenario

Many customers have already started their journey toward a Data-to-Everything platform. By using well-defined use cases and clearly defined business metrics, these companies have had early success across their business and IT goals. Building a strong business case is the first step in the process toward reaping the benefits of a Data-to-Everything platform and expanding the value the platform can provide across business and technology functions. Figure 4 shows a common use case and adoption scenario.

FIGURE 4

Use Case and Adoption Scenario

Adoption scenario viewpoints	Adoption	Technology platform adoption is exploding as CIOs align their career goals with their platform choices and their ability to deliver business outcomes.
	User profile	A growing list of users includes LOB and general managers, CMOs, business analysts, IT operations, security directors, DevOps, and cloud operations.
What it means for business executives	Use case	Improving business insights across business (marketing, IoT, LOB) and technology processes (security, IT operations) by collecting vast amounts and varieties of data and applying bespoke analytics to find insights.
	Metrics	Common metrics include improved business productivity and accuracy of decision making, cost reductions, speed to value, and improved profitability.
	Customer impact	Investment in a Data-to-Everything platform can drive a deeper customer experience and improved data-driven decision making across use cases and technology functions.

Source: IDC, 2019

Data-to-Everything Use Case Examples

The following use cases demonstrate how users of Splunk are gaining business and IT insights and business efficiencies from the use of multiple data sources and analytics. These use cases are examples of applications based on Data-to-Everything platforms.

Data-to-Everything Platform Monitors Real-Time Business Impacts

A large global aircraft manufacturer uses the Splunk solutions for real-time monitoring of IT systems, security operations, and IoT applications to understand how they are impacting business services and business processes. Centralized real-time monitoring and dashboards allow issues to be detected, corrected, or prevented within minutes. The same Splunk platform is used for security operations, supporting both security and IT use cases. A warehouse management system supports display of warehouse locations with real-time inventories and status. Alerts identify issues and problem areas. The goal of this IoT application is to enable the manufacturer to answer customer requests as quickly as possible (e.g., to be able to deliver spare parts within hours). Splunk solutions support fast tracking of time to value and time to insight for key use cases across the entire organization, including security, IT operations, and IoT.

Data-to-Everything Platform Optimizes Customer-Centric Business Processes

A major international airport is using Splunk Enterprise for key use cases: IT operations, business analytics, security, and Internet of Things. The company employs sensor technology to collect data on customer-centric business processes. The data combined with business analytics on the Splunk platform gains real-time insights to drive efficiency across the airport. The airport has sensors everywhere: 3D cameras for measuring queues and security processes, metal detectors, baggage systems, and x-ray machines. The airport has built an operations center that monitors all of this data using Splunk Enterprise. With the data insights, the airport has optimized the efficiency of key processes: enabling travelers to go through security in five minutes, providing the fastest airport Wi-Fi, streamlining baggage management, and even managing bathroom supplies. The outcomes achieved include faster passenger flow, better customer experience, and new insights to drive future plans.

Data-to-Everything Platform Supports Real-Time eCommerce Services

Splunk is helping a leading restaurant chain keep its online ecommerce service up and running even during peak periods and major sports events such as the Super Bowl. The Splunk platform is supporting the company's entire ecommerce environment with data that spans IT and business operations. IT managers share how they use Splunk to make online operations more efficient, gather new analytics, and create reports to inform business decisions. With Splunk, the company tracks sales trends and customer behavior – going beyond IT operations to gather real-time business insights with business analytics. The platform is helping the company's marketing organization analyze real-time data from online operations such as orders per minute, transactions out to stores, what products are being ordered, and what coupons are being used. Data is driving marketing decisions such as real-time optimization of coupon-based discounts and promotions. Splunk is helping the company strengthen business by using data to gain a better understanding of customer behavior and customer experience.

Data-to-Everything Platform Enables Comprehensive Healthcare Monitoring

A major East Coast health services provider approached Splunk to develop a controlled substance monitoring platform while also enhancing patient privacy. The choice was based on Splunk's unique ability to synthesize big data analytics with a massive volume and a variety of data from hundreds of clinical applications, systems, and data sources. The company uses Splunk to monitor IT security operations and recognized that the same principles could be used to build a platform to more closely safeguard controlled substances and other medications. The company and Splunk are also developing an enhanced data analytics tool to expand proactive security measures to protect patient privacy and investigate unauthorized access to electronic patient records from internal and external sources. The enhanced Splunk privacy platform will add even more safeguards, including the ability to issue alerts in real time if someone were to inappropriately view patient records.

Data-to-Everything Best Practices

Figure 5 illustrates best practices for use of Data-to-Everything platforms. Early executive adoption has shown that there are several key best practices that drive high levels of repeatability and optimization of business outcomes. The three key areas are data, strategy, and analytics and automation.

FIGURE 5

Best Practice Considerations

Data	<ul style="list-style-type: none">▪ Collect real-time data from across multiple business units.▪ Identify the data required for each use case.▪ Align new data sources with specific use cases.▪ Understand the requirements to acquire data (APIs, integrations, partners, etc.).
Strategy	<ul style="list-style-type: none">▪ Connect the data strategy to the analytics strategy.▪ Identify the data the business owns and required collection process.▪ Consider a data governance strategy or a data operations COE.▪ Create a high-performing IT and business culture by using data-driven decision making.
Analytics and Automation	<ul style="list-style-type: none">▪ Automatically correlate different data sets.▪ Apply the best-fit analytics to answer the business problem.▪ Build automatic data reconciliation processes to maintain quality.▪ Use automatic data correlation capabilities.

Source: IDC, 2019

CHALLENGES/OPPORTUNITIES

The Data-to-Everything platform provides an opportunity for IT and business executives to reap faster outcomes through smarter technology and more efficient data collection and analysis. However, executives should consider the following leading challenges:

- Driving the creation of collaborative teams across business and IT that can support a data-driven culture
- Having a deep understanding of what data sources business owners have accountability for and how IT can access those data sources
- Having a point of view on the type of analytic models required to drive the right outcomes and making sure the Data-to-Everything platform has the capability to use those models
- Developing a clear use case with the right outcomes and metrics that can drive a high ROI for the platform
- Having the ability to identify which human-based process can be integrated with the outcomes triggered by the Data-to-Everything platform (e.g., security or application problem identification and resolution processes)
- Creating a tight partnership between the respective IT and business teams, bringing staff together to have a singular goal and set of metrics to gauge project progress and success

CONCLUSION

The Data-to-Everything approach enables business and technology executives to derive more value out of the data they already have. It provides a unified platform that can empower teams and stakeholders through the central collection of existing and emerging data sources and the application of analytic models to data-driven decisions that are essential for business growth. The ability to achieve success in the future requires collaborative teams across business and IT, driving automated processes that reduce risk and increase security and providing the business with capabilities and insights that deliver growth, higher service levels, and deeper customer insights. Business and IT executives who don't believe that their technology architecture is their business architecture will be at a significant disadvantage moving forward. The Data-to-Everything platform can serve as a foundational technology that improves decision making.

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