

DATA REVOL UTION

IT'S A DATA-DRIVEN WORLD

Prepare For the Data Revolution

Are You Ready to Compete?

Introduction



Global Disruption Heightens the Need for Good Data

When we originally published this report in December 2019, we couldn't have predicted a pandemic that would change the face of not only American business, but the global economy as well. However, the insights and strategies we laid out then are just as true today.

We've all read the headlines about digital disruption of traditional industries.

Amazon disrupts brick-and-mortar retail, Apple Wallet disrupts credit cards, Uber disrupts transportation, Tesla disrupts manufacturing, and so on. Any CEO who hasn't internalized that digital transformation eventually will disrupt and revolutionize nearly every industry sector has their head firmly stuck in the sand.

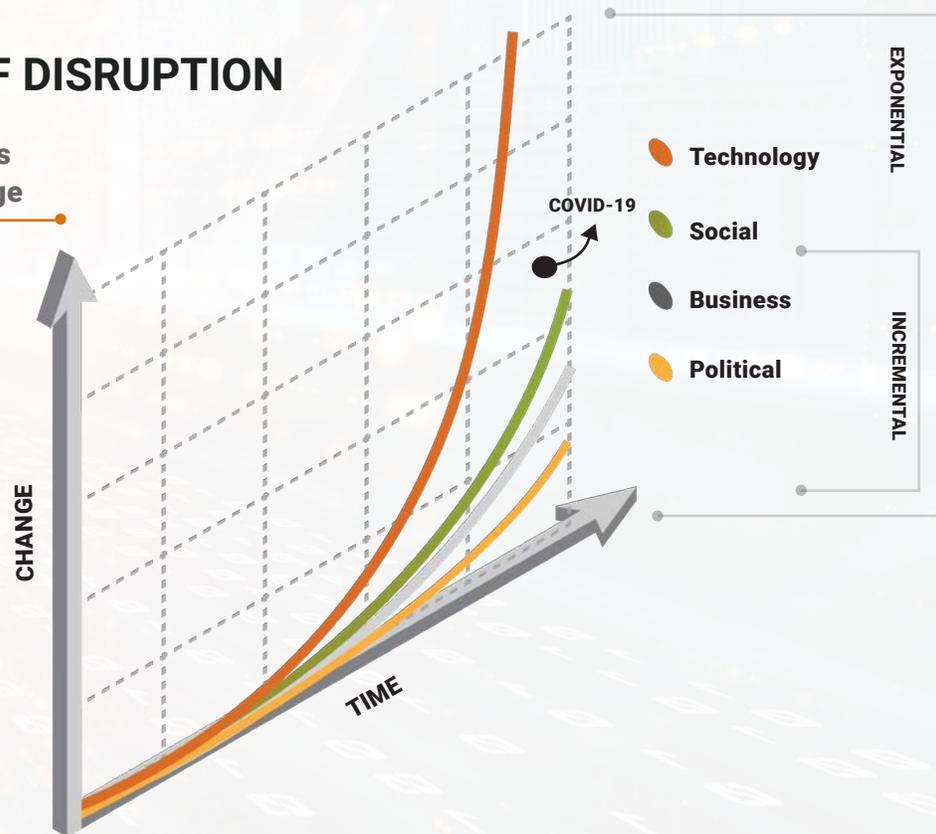


The COVID-19 pandemic has only reinforced and accelerated a growing trend from the past few years, where we have seen intense efforts to define and execute the right digital strategy – whether that’s delivering a compelling online experience for customers by adding online payment options or developing intuitive chatbots, creating mobile applications or expanding delivery channels for more convenient customer service, or many other initiatives aimed at establishing or regaining competitive advantage, operational efficiency or profitability.

Downstream effects such as the political uncertainty and social unrest driven by events like COVID-19 can serve as inflection points that spearhead business leaders to transform their organizations. While these grab headlines, they only power change at an incremental level. It is technological and digital innovation (though often as a response to external factors) that powers change exponentially.

THE LAWS OF DISRUPTION

Exponential Versus Incremental Change



The Race to Competing Digitally

In this race to compete digitally, companies are seemingly missing the forest for the trees. While they're focused on technology and process changes, the foundational piece — data — is largely being ignored. Data is the virtual fuel that enables everything from disruption to transformation, to developing viable new products, to beating the competition to market, to attracting and retaining customers. Everything requires data.



Companies that are beating their competition tend to share a common denominator – they value their data and have a data strategy.

This is true whether the business is a local mom-and-pop brewpub or an international technology conglomerate. Their leaders aren't focused on a few chunks of information scattered here and there throughout the company. They understand that true value comes from looking at all the important data across the business: all types, sources, methods of analysis, use cases and monetization strategies.

Those who underestimate the role and importance of data in determining their company's future are doomed to be disrupted by players who have learned how to use and monetize data as a core competency of their business. Where does your company stand today? Are you ready to compete on data?

Data is a new currency underpinning fundamental changes to business in the fourth industrial revolution.

Those companies not prepared to leverage their data as an asset will not cross their next inflection point successfully.

01

DATA IS CURRENCY

Ignore the Value of Data at Your Company's Peril



Everyone knows the saying about leaving money on the table. Given that we're in a data economy, that cliché needs an update: Don't leave data on the table. It's time to stop thinking about data as a byproduct of doing business. Today, data is an asset that appreciates or depreciates over time depending on how it is used. In fact, it's the product and the currency that increasingly drives our economy. It may not be long before we measure national economic growth in gross *data* product.

While not yet required to be on the corporate balance sheet, data is both valuable to the company that owns it (think Amazon and its data on consumer shopping preferences) and, increasingly, to third parties (e.g., data from sensors that show traffic patterns or weather delays useful for logistics companies).

Data is already becoming a deciding factor in whether companies can keep up with their competition. In a survey of C-level executives in Fortune 1000 companies, nearly half (47%) say their organization competes on data and analytics.¹

Data is the driver for operational improvements, new sources of innovation, competitive differentiation, new revenue streams and more. One example is using data to adapt rapidly to shifting customer interests and expectations. Predictive analytics lets companies personalize offers, price competitively, and deliver products and services when and how their customers want them. Data that drives hyper-personalization will keep both customers and employees engaged and interested in the business.

¹ "Big Data and AI Executive Survey 2022," New Vantage Partners, 2022



Domino's Pizza Inc.

Domino's Pizza Inc. developed a proprietary point-of-sale system for all 6,000 of its stores. And while digital ordering for fast food chains averages around 10% of total sales, Domino's reached 75% in 2020.

In the second quarter of 2020, sales at the largest Pizza Hut and Wendy's franchisee fell 37% compared to the previous year, while Domino's U.S. sales grew by 16% in the same period.²

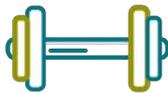
Consider these examples of companies that recognize the value of data and leveraged it to transform all or parts of their businesses:



Kaiser Permanente

Kaiser Permanente, an Oakland, California-based healthcare provider and insurer, took advantage of the federal government's relaxation on telemedicine billing restrictions in 2020, when in-person medical care was difficult to provide. The nonprofit had digitized its medical records and created an online portal for its members in the 2000s.

Pre-pandemic video and telephone visits accounted for only 17% of total visits, but in April 2020, 81% of scheduled visits were managed through these mediums. That's an eye-popping number compared to the figure of 44% that Medicare was able to provide in that same month.³



Equinox - Gym Brand

Equinox invested in artificial intelligence (AI) and mobile applications. This led to solutions such as a digital coach bot, which learns from members' activities and wellness goals. Based on the data it collects, the bot curates digital content, optimizes schedules for each location and guides hiring the right talent to teach classes. Within six months of product launch, Equinox reported that mobile application check-ins were up 40%.⁴



Allstate

Allstate is committed to leveraging data as an enterprise asset, with data and analytics integrated into almost every operation within the company. For instance, the insurer employed AI techniques to better understand the history of policy holder interaction. By analyzing photographic images and text data, Allstate can detect additional signals that predict policy renewal and result in a better customer experience.⁵



Chevron

Chevron analyzes data from 5 million offshore oil wells to help discover a new way of horizontal drilling on shale wells that reduced the drilling time from 27 days to 15 days, resulting in significant cost reductions.⁶

² "Most Businesses Were Unprepared for Covid-19. Domino's Delivered." Greg Ip and Angus Loten, The Wall Street Journal, September 2020

³ Ibid

⁴ "Discover Where Value's Hiding," Accenture, 2018

⁵ "Allstate's Data-Driven Business Transformation Initiative," Randy Bean, Forbes, November 2018

⁶ "Discover Where Value's Hiding," Accenture, 2018

It's now a **VUCA** world

VOLATILE • **U**NCERTAIN • **C**OMPLEX • **A**MBIGUOUS



LEVERAGING DATA

Driving Digital Transformation

Data is a major impetus for digital transformation. By employing interconnected solutions that unify data from across the organization, business leaders can get a leg up on the competition and power strategies with greater accuracy.

Microsoft is a prime example. Moving all their first-party apps to their Azure cloud-computing platform enabled Microsoft to reduce infrastructure costs by 20% and the related physical blueprint by 60%. But the greater value, according to Microsoft Corporate VP and Treasurer George Zinn, was that it put all the data in one place and transformed ideas into realities. Now, employees can use Microsoft's Power BI (a visualization/analytics software tool) to get insights on their business by streamlining the examination of gigabytes of data. They can analyze and visualize information in a unified platform – reducing time spent rationalizing spreadsheets, finding all the locations where information was kept and then reconciling it.⁷

The VUCA (volatility, uncertainty, complexity and ambiguity) times brought on by the COVID pandemic further shine a light on the need

for digital transformation and have affected the executive decision-making process in unprecedented ways. Now, leadership teams face pressure to shift their business models to satisfy customer demands instantly, and they have to manage investors' heightened expectations by providing operational and benchmarking information, financial analysis, forecasts and other mission-critical insights at the click of a button.

Adapting to unforeseen disruptions, adopting to newfound business prerogatives and using them to propel your business forward is rooted in an effective data strategy. For example, environmental, social and governance (ESG) criteria are increasingly important to consumers, investors and businesses alike. To meet the extensive compliance demands, you need data. Enterprise resource planning (ERP) software can offer your business a way to consolidate your operational data into a single platform – enabling you to pull all the information necessary for your ESG reporting.

⁷ "Microsoft's Digital Transformation," BNY Mellon, October 2019

In addition, once you have heightened visibility into your data through a solution like an ERP, you can meet your reporting needs, but also use that data to enhance ESG and larger business initiatives by applying it to your supply chain. You can create ESG and other metrics for suppliers and map your entire supply chain within the ERP. This helps you craft timely strategies in response to unexpected supply chain challenges such as those caused by COVID. So your business has the insight it needs to pivot quickly and mitigate issues that could impact your bottom line.⁸

While these VUCA times offer a point of inflection to inform business strategies, they also serve as a reflection point where leadership can take stock of whether they are doing the right things, whether they have

positioned themselves correctly to tackle what is ahead and whether they have the tools they need to thrive.

Success will soon depend on your company leaders' ability to formulate and execute a comprehensive data strategy. Leveraging information from every source, both financial and nonfinancial, is critical to accessing the insights that help leaders to craft informed business strategies. The opportunities available by utilizing data are seemingly limitless, but only if acted upon quickly. Data and new market opportunities created by data have a limited shelf life.

Top 6 Consequences of NOT Treating Data as a Strategic Asset

1. Decisions take longer and rely more on intuition than on real data-driven insight
2. Customers become increasingly dissatisfied with the experience and value your company delivers
3. Competitors disrupt your industry and your business models to capture your market share
4. Profitability and the overall value of your company suffer as operational inefficiencies shrink your margins
5. Your business fails to capitalize on opportunities to monetize your data to increase revenue, create new revenue streams and pivot to new business models
6. Disparate, redundant systems cause data depreciation and negatively impact the overall business strategy when departments can't agree on what's accurate

⁸ "ESG and the global supply chain," Nadya Britton, Thomson Reuters, October 2021



OR

TIMES ARE CHANGING

Join the Data (R)evolution

That was then: Companies struggled to make good use of their data because the technology to do so was expensive and complex. Big data was the purview of big companies with big pockets and a team of data scientists at the ready to tease out nuggets of insight. Data wasn't considered an asset, lacked cohesive governance, and didn't drive company strategy in a meaningful way. As a result, companies got stuck in their initiatives to become more data driven.

This is now: Virtually everything about generating, collecting, storing and using data has changed in a short amount of time. Technology is making data collection and analysis easier and more affordable than ever. At the same time, there's more volume, types and sources of data than ever before, creating new levels of complexity and the need for centralized governance. Sophisticated technologies such as AI are advancing in their capabilities and delivering real business value at a rapid pace. Even now, only 26% of C-level executives believe they have a data-driven organization.⁹

⁹ "Big Data and AI Executive Survey 2022," New Vantage Partners, 2022

The trends coalescing into today's data revolution include:

Data democratization:

The proliferation of affordable compute power, storage, tools, technologies and platforms means that every company regardless of size can harness the power of data. Also helping to level the playing field is access to on-demand data science resources available for hire. These outside services enable companies with data analysis, development of AI algorithms, and other specialized data services that provide businesses necessary insights without needing to hire their own data analytics team. There is also the emergence of the "citizen developer," meaning every employee is able to create a report and see the trends they're looking for.

Cloud computing:

Instead of requiring extensive capital investment into parallel processing hardware in the company data center, the processing power needed for crunching large volumes of data is available on demand in the cloud. The software to collect, store and analyze data is also available in the cloud (software-as-a-service or SaaS), which minimizes IT investment and accelerates time to value.

Internet of Things:

Sensors in everything from refrigerators and stoves to other data-generating technology, such as wearables, deliver a new universe of types and sources of data. Capturing data at the individual device level has become increasingly easier as consumers become more dependent on technology.

Artificial intelligence (AI):

Data is also the fuel for applications of AI such as predictive analytics. These advanced technologies help companies identify and explore new and disruptive business models they've never before considered as well as new services that keep their businesses relevant.



The Universe of Data is Enormous & Growing

Are you gaining insights from all the possible data that you can?



Operational systems



Website analytics



Vendors



Mobile applications



Customers



Sensors



Industry



Wearables



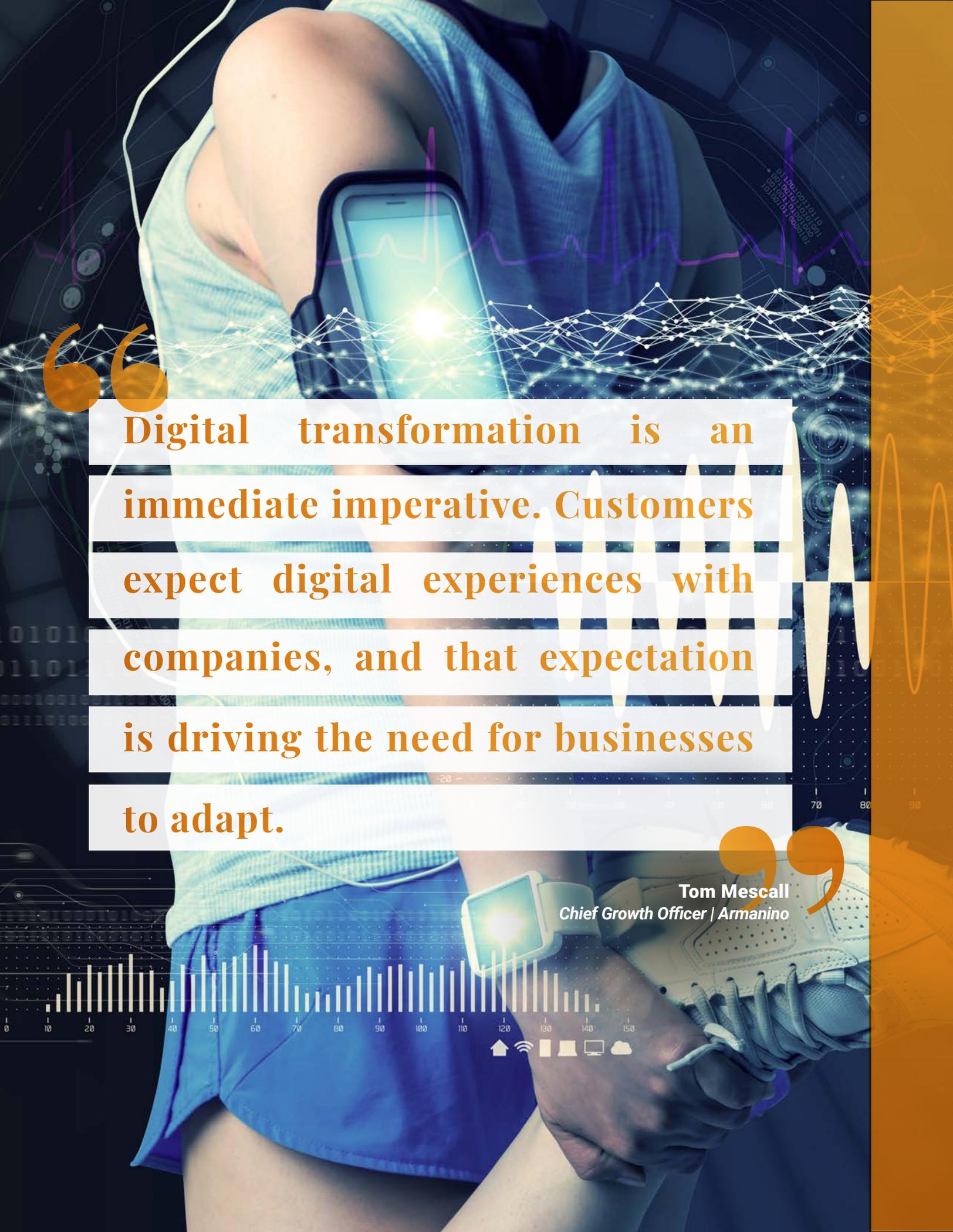
Social media



Internet of Things

These changes are at the center of the fourth industrial revolution, also known as Industry 4.0. In his book *The Fourth Industrial Revolution*, Klaus Schwab, the founder and executive chairman of the World Economic Forum, outlines how technological changes such as AI, autonomous vehicles and the Internet of Things are drastically altering how individuals, companies and governments operate, ultimately leading to a societal transformation similar to previous industrial revolutions. It's clear that data is the driver of the revolution.

With all this change, it's easy to lose sight of the big picture and the company-wide value and potential of data. Armanino's [DataVue](#) methodology for digital transformation was created to provide a path for a complete transformation of the thinking and skills necessary for business leaders to navigate today's environment. Today, the data revolution is the top strategic area on which executives must focus.



Digital transformation is an immediate imperative. Customers expect digital experiences with companies, and that expectation is driving the need for businesses to adapt.

Tom Mescall
Chief Growth Officer | Armanino

TOP CONSIDERATIONS

Ask These Questions About Your Data

In the data economy and the fourth industrial revolution, your company's future performance will depend on the quality, completeness and accuracy of your data and how well your company uses and monetizes it. It's no wonder that 75% of chief data, analytics or information officers fear disruption from new market entrants and 88% feel greater urgency to invest in data and artificial intelligence.¹⁰

A global benchmarking study on the value of analytics shows that the biggest differences between leaders and laggards are:

- C-suite commitment
- Strategic alignment between the business
- The analytics strategy
- The right culture



Leading companies integrate analytics into all decisions to “fuel successful business outcomes ... drive innovation and create a competitive advantage.

A.T. Kearney, 2018
*The Untapped Value of Analytics*¹¹



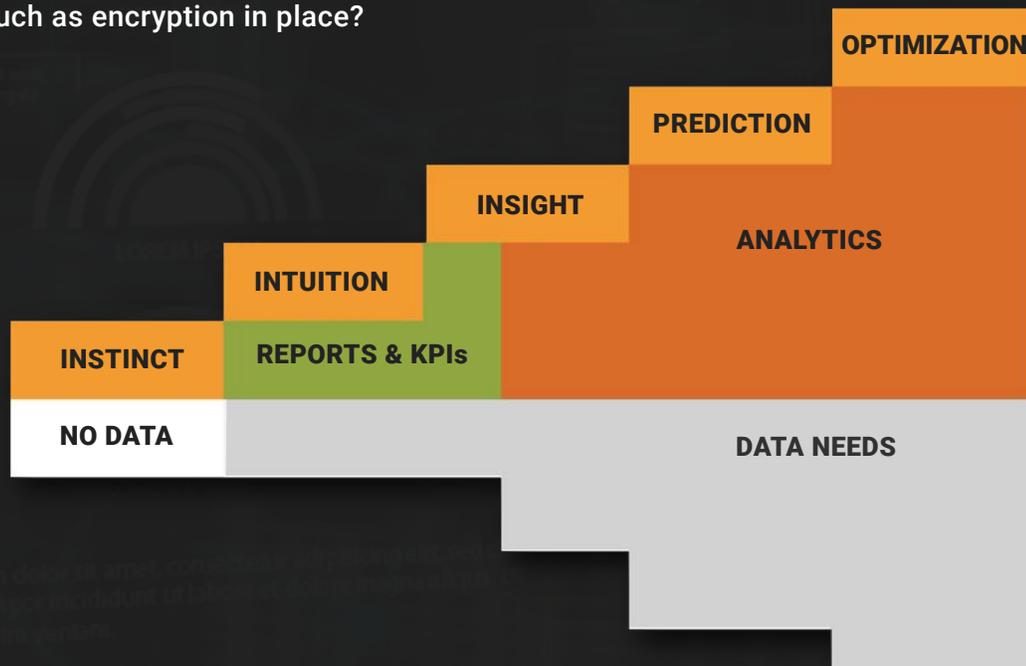
¹⁰ Ibid

¹¹ “The Untapped Value of Analytics,” A.T. Kearney, 2018

Strategic Approach to Data

To begin understanding whether your company is taking a strategic approach to data, ask yourself these 13 questions:

1. What is the value of your transactional data?
2. Are you thinking about secondary usage of data as an asset?
3. How can you monetize data as a service offering to your markets?
4. What is your innovation strategy and how are you leveraging your data to inform that?
5. Are you using all the data that you're tracking?
6. Is there data you could be collecting, but aren't?
7. Do you have a cohesive, centralized data management process led by a chief data officer?
8. Do you understand your compliance obligations?
9. Do you have data governance and security such as encryption in place?
10. Do you have defined goals for your data strategy that can be objectively measured?
 - Increase marketplace value & shareholder return
 - Enter new markets with new, differentiated products, services & experiences
 - Create new revenue streams by monetizing data
 - Use data to better understand your customers
 - Use data to make better operational decisions
 - Use data to better engage & train your employees
11. What is holding your company back from achieving the full value and benefit of your data?
12. What will happen if you don't enact a comprehensive data strategy?
13. Will you be able to evolve and take advantage of the next major disruption that occurs, or will it put your business in the ground?





Companies can't compete without harnessing the power of their data. While you might think you know something intuitively, the data could show a different story. Without data, assumptions and past experiences are the primary inputs to decisions, increasing the risk of missing out on material but less obvious trends and opportunities.

Don't confuse a data *protection* strategy, such as one designed to comply with the European Union's General Data Protection Regulation (GDPR), with the

need for a data strategy. Protecting data is not the same as enabling the business with it, and while there may be benefits of using foundational efforts to rationalize the collection of data, cleanse it, and limit unnecessary proliferation of sensitive data, just protection of data is not a strategy on its own. A true data strategy empowers the organization to extract value from its data while also addressing the need for compliance and limiting data sprawl.

STEPS TO SUCCESS

Develop Your Data Strategy & Become Data Literate

While it can be overwhelming to go from thinking about data as a byproduct of the business to data as a valuable asset, don't delay taking action because you don't know where to start. The objective should be to look at data strategically and use it to drive better outcomes. To this end, you can start small, achieve some initial value, and then incrementally grow your strategy over time.

Here are some foundational first steps to help you orient your company to a cohesive, strategic approach to data:



Defining and executing a data strategy is by no means a trivial undertaking. Analyst firm Gartner says, “While monetization of data is a relatively straightforward way to demonstrate value, determining which data assets can be monetized, and how, is not an easy task.” According to the firm, companies and their employees must become data literate. Gartner defines

data literacy as “the ability to read, write and communicate data in context, including an understanding of data sources and constructs, analytical methods and techniques applied – and the ability to describe the use case, application and resulting value.”¹²

CEO Checklist

- Who owns your company’s data assets?
- Do you know the value of your data?
- Is the value of your data increasing or decreasing?
- Is your data secure?
- Do you understand what types of data are available both internally and from external data sources?
- Have you set and communicated priorities for developing and executing a data strategy?
- Are you investing appropriately and allocating the appropriate resources to develop the full potential of your data assets?
- Are data and data services driving new products, services and business models?
- What are you learning from your data?
- What would you like to know from your data?

06

OPPORTUNITIES IN DATA Final Thoughts

As of 2020, there was an estimated 40 times more bytes of data than there are stars in the observable universe.¹³ Let that sink in. Data is driving the revolution that will impact the fundamental ways that our society functions. Make no mistake, it will impact your business and your industry in profound ways, and potentially much sooner than you think.

For your company to survive and thrive, you can't rely on intuition. You need to make decisions that are grounded in real-time data and the insights derived from it. Those decisions should be driving opportunities to create value for customers and the business, including new services, products, and business models, and even monetizing data by selling it to others.

Top Five Results of a Successful Data Strategy

1. Your company can use AI to analyze and predict future outcomes
2. You can anticipate trends and changing customer preferences to remain relevant to your customers and outmaneuver competitors
3. Everyone in your company has the real-time information they need to make better operational decisions, faster
4. You can monetize your data and create new products, services and revenue streams
5. You've optimized operations, removing inefficiencies and blind spots

¹³ "Data Never Sleeps 7.0," Domo, 2019

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THANK
YOU

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