Becoming a data-driven organization

The what, why and how

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Ongoing digitization has created vast streams of data, forcing businesses to become more data-driven than ever before. While the benefits of being a data-driven organization are clear (improved performance, more profitability, stronger innovations), there are still some technical and business challenges to overcome. Thanks to technological advancements in data analytics, companies in all types of industries can become data-driven. Read this e-book to discover what it means to be a data-driven organization and to learn the basic do's and don'ts of how to get there.

Why become data-driven?

These days, it seems like everything around us is generating a constant flux of data. Not just our cars or mobile phones, but also a growing number of appliances, machines and "things" in the Internet of Things (IoT). Companies use information about where we are and what we're doing for their marketing purposes. Sensors in machines collect data that's analyzed and used to improve output. This flood of data is transforming our world. Companies that want to stay ahead must become data-driven.

The rise of the data-driven organization

Many organizations worry about staying competitive in the midst of big data, artificial intelligence (AI), machine learning and the IoT. This is particularly relevant today because these concepts are already generating value for many companies. The glue that binds all of these together is data.

What is being data-driven all about?

Data-driven organizations rely on vast amounts of data – and analytics – to improve and speed their decision-making processes. By having superior analytics, they can have superior insights. At data-driven organizations, decisions that aren't supported by data are considered questionable. Smarter analytics technologies now enable every company to become more data-driven.

As consultancy firm McKinsey says:

"Decisions no longer have to be made in the dark or based on gut instinct; they can be based on evidence, experiments and more accurate forecasts."

Data-driven organizations use analytics to become smarter:

1

They perform better

The data shows where they can streamline their processes.

3

They are more profitable

Constant improvements and better predictions help to outsmart the competition and improve innovation.

2

They are operationally more predictable

Data insights fuel current and future decision making.

These advantages make an organization more shock-resistant and less likely to fall victim to the next economy, technology or competitive disruption.

Gut feeling no longer makes the difference

Gut feeling is not good enough anymore to differentiate yourself from your competitors. To be truly competitive, you will need data – lots of relevant data. Luckily, any organization can set out on the journey to become data-driven. You no longer need to be a data scientist to work with data. **Citizen data scientists** are not professional statisticians or trained analysts, nor are they math wizards or computer scientists. They are just regular business users who create and use advanced analytical models.

Citizen data scientists are part of the ongoing wave of **democratization of analytics** in every department. These business people have the right attitude – curious, adventurous, determined – to research and improve things about your business. They want to get their hands on the data and find new ways to get answers. They're willing to learn new methods and use new tools. They typically think, "I don't want to ask a statistician. I want to try it myself."

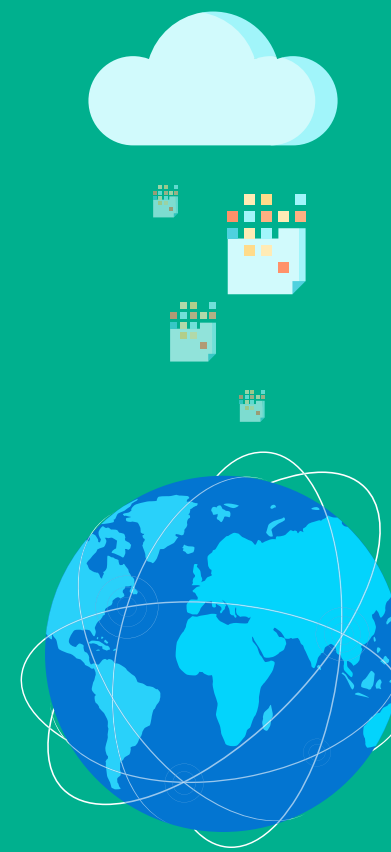# ZOOM-IN ON SWISSCOM

SWITZERLAND | TELECOM | CUSTOMER SERVICE

1 x FASTER

2.5 quintillion bytes

Ninety percent of the data in the world today has been created in the last two years alone. Our current output is roughly 2.5 quintillion bytes a day.

Source: How Much Data Does the World Generate Every Minute? IFLscience

CUSTOMER SERVICE DATA IS NOW PROCESSED 7 TIMES FASTER, MAKING IT FAR MORE USEFUL IN SOLVING ISSUES.

Swisscom, Switzerland's largest telecom provider, found that analyzing its customer service data was too slow and required too much manual work. As such, it did not really help to improve customer service. Through SAS® Text Analytics, related terms, descriptions and possible solutions were shown much faster – often almost simultaneously – as ongoing call center documentation evolved. Now reports are sent daily instead of weekly or monthly.

"We are able to create fully automated daily reports, which has a direct positive effect on service quality and customer satisfaction."

Albert Labermeier
Senior Marketing Analyst, Swisscom

The road to
becoming
data-driven

While the benefits of becoming more data-driven are apparent, our experience shows that many companies still face a few bumps in the road. Luckily, technology advancements have put data analytics within reach of a growing number of organizations.

Changing mindsets

On the road to becoming data-driven, it's crucial for people to change their mindsets and for organizations to change their processes. Doing so will help overcome some of the following four hurdles:

1

UNSTRUCTURED DATA

Data that does not fit predefined, conventional data models is called unstructured data. This includes text documents, pictures, emails, sensor data from the IoT, and more. This data is hard to analyze using traditional analytics, although it contains valuable information.

2

UNCONNECTED SYSTEMS

Organizations often use multiple information storage systems side by side with no – or, at best, unwieldy – connections between them. These systems may offer conflicting information because they use different sources, processing methods or naming conventions.

3

LOW DATA QUALITY OR UNAVAILABLE DATA

Sometimes data quality simply isn't good enough because of poor data input or poorly implemented data connections. It's hard to get good business intelligence from poor – or incorrect – data.

4

MISALIGNMENT WITH IT

Business units shouldn't have to depend on IT for data analytics. They should be able to do it themselves. One reason? IT is under constant pressure to keep delivering more at lower costs, so data analytics requests may end up at the bottom of their list.

All of these challenges can be overcome by defining a road map toward better data analytics.

ZOOM-IN ON
Telia Denmark

DENMARK | GDPR COMPLIANCE

TELIA DENMARK, WHICH PROVIDES INTERNET, PHONE AND TELEVISION SERVICES, IS PART OF THE TELIA COMPANY – THE FIFTH-LARGEST TELCO IN EUROPE. TO ADDRESS GDPR REGULATIONS, TELIA DENMARK USED SAS TO HELP IT LOCATE AND IDENTIFY PERSONAL DATA ACROSS ITS MANY LEGACY DATA SOURCES.

Under GDPR regulations, companies must be able to document their processes for obtaining and storing personal data – and their ability to identify and extract all personal data related to an individual. To ensure that all personal data is located and identified in its systems, Telia Denmark designed a data discovery process and a set of rule files. This is not as simple as it sounds. For example, a telephone number is a personal identifier, but a telco customer may also be identified in a number of other unique ways, such as through a SIM card number, an IMEI or IMSI number.

Telia Denmark used SAS software to carry out data discovery processes on many separate IT systems that contained personal data. Now the company can live up to GDPR demands of being able to identify and locate personal data within its own systems. So, if a customer wants to exert his or her right to have files deleted, a command to all Telia Denmark systems can be created to ensure this will happen.

80%
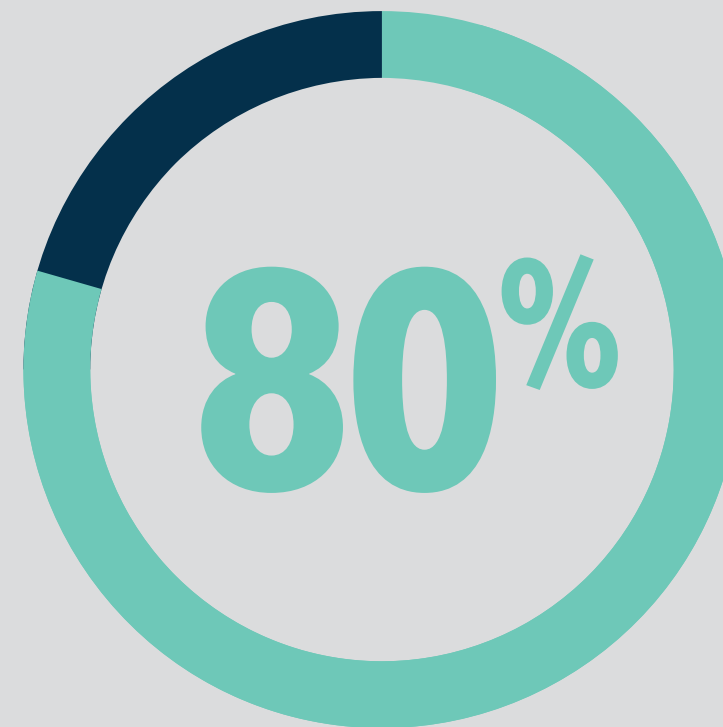
Analysts at Gartner estimate that 80 percent of all enterprise data today is unstructured.

Source: The Big (Unstructured) Data Problem. Forbes Technology Council.

45%
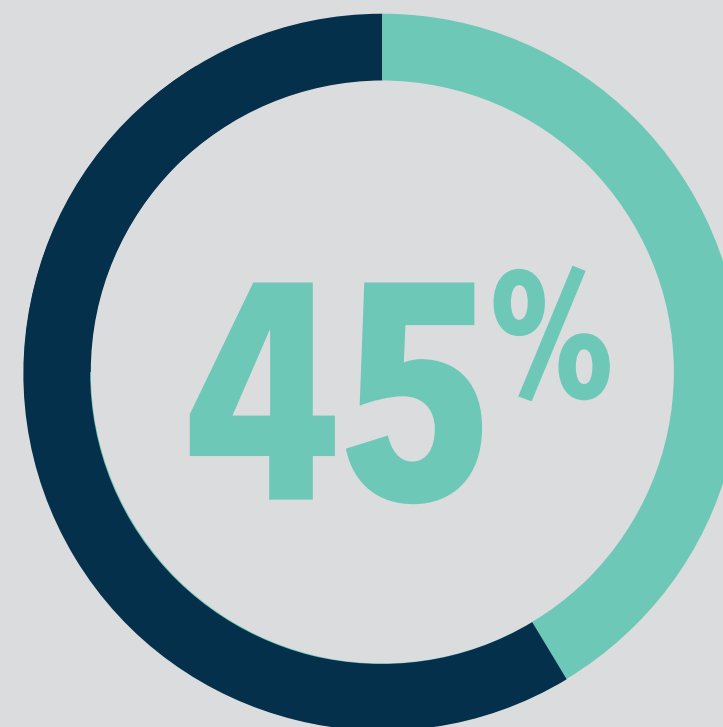
According to an IDG survey, 45 percent of business leaders cite unstructured data as their single biggest hurdle to overcome in analytics.

Source: 2016 Data & Analytics Survey. IDG

The three
foundations of
better analytics

Technological improvements within analytics platforms make it possible for more companies to become data-driven – by enabling them to manage their data better, run more complex analyses and visualize outcomes in a more understandable way. With the right technical foundation, you'll be well on your way to becoming a data-driven organization.

Laying the foundation

There are **three foundations** to becoming data-driven.

1 | DATA MANAGEMENT

Good data management is the first step in dealing with big data or starting any analytics project. All the data you use in your business activities needs to be consistently well-managed so that you'll have trustworthy information to guide your decisions. A solid data management foundation positions you to make data-driven decisions about things like product development, customer service offerings and complex data privacy compliance issues. In turn, your analytics platform should incorporate key capabilities – like data integration, data preparation, data quality and data governance. It should be able to process any combination of structured, semistructured and unstructured data – providing you with managed, current data on demand.

2 | ANALYTICS

Poring over endless rows of figures and numbers is the heavy lifting of data science. By leaving this task to specialized software, there's less room for human error and more room to actually start using the results of your analysis. Complex calculations can now be run at the click of a button, making results available to any business user.

3 | DATA VISUALIZATION

The end result of your analytical work should be better insights. By visualizing your data in different types of graphics and charts, outcomes become easy to understand – at a glance. You can also set up reports and dashboards to quickly share these insights with multiple people across your organization.

74%
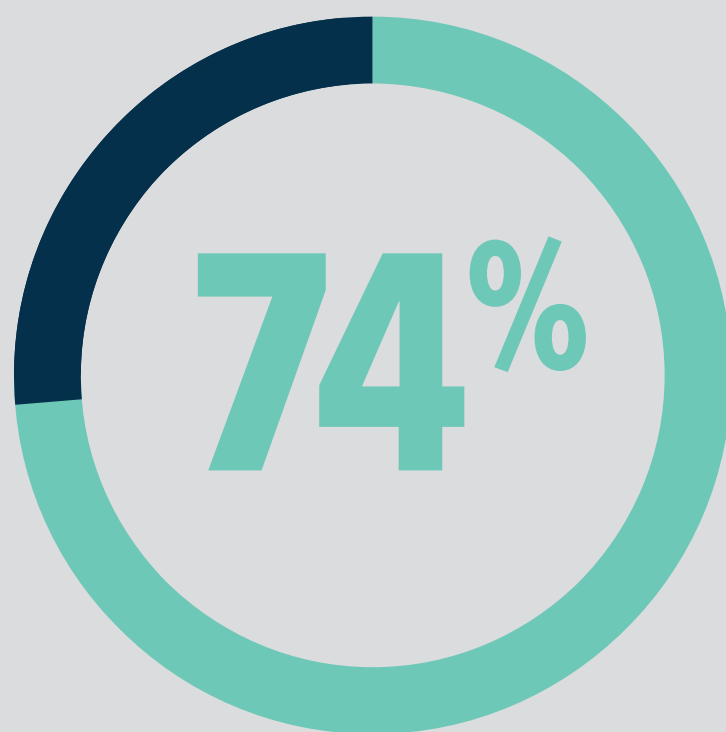
According to a Forrester study, 74 percent of all companies would like to be more data-driven, but only 29 percent claim that they are actually good at putting this idea into action.

Source: Think You Want to Be "Data-Driven"? Insight Is the New Data. Brian Hopkins, Forrester.

The power of analytics that everyone can use

The foundations of data management, analytics and data visualization enable you to build an **analytics platform** that works for everyone. The benefits can help eliminate obstacles throughout your data-driven journey.

1 You get **clear results**, even from imperfect or unstructured data. Cleaning up your data and perfecting your input models can come later.

2 Your intelligence is **easy to view and understand** with visuals that are more captivating than any line of text could ever be.

3 Because the platform is easy to use, **it's self-service** – reducing reliance on IT. In turn, IT can focus more on its core business.

ZOOM-IN ON ROYAL BANK OF SCOTLAND

UNITED KINGDOM | BANKING

ADVANCED ANALYTICS IS HELPING THE BANK REDEFINE THE WAY IT CONDUCTS BUSINESS. DATA VISUALIZATION PUTS THE DATA INTO THE HANDS OF THOSE WHO NEED IT TO MAKE BETTER DECISIONS.

Royal Bank of Scotland is working to become the No. 1 bank in the UK for customer service, trust and advocacy. Data is the key to helping the bank transform its relationship with customers. Through data visualization, RBS explores and interacts with data quickly and easily, enabling it to make better business decisions. And by analyzing customer data, the bank can meet its goal of making customers the center point of every decision. With this data-based approach to business, the bank stays focused on doing the right thing – and benefiting from doing the right thing.

"Data is enabling us to drive transformational change across the RBS Group that allows us to achieve our ambition of earning customers' trust by serving their needs better than any other bank."

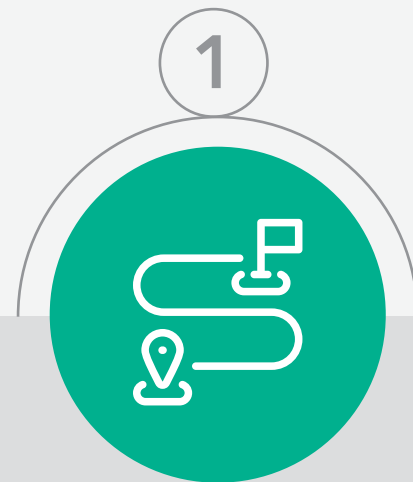**Christian Nelissen,** The Data Guy, Royal Bank of Scotland

The
data-driven
journey

So, where do you start your data-driven journey? A "big bang" approach is risky: It can overcomplicate things or may simply lack focus. We recommend a step-by-step approach as the surest way to achieve success.

Plotting the course

1

Choose your starting point

Your starting point can be a team (e.g., the marketing department) or a specific data source. Consider collecting data from your CRM system to get better insight into customer behavior, or begin with productivity data from the shop floor.

Or, recorded customer service calls or data from your finance department could be your first project. It's best if your starting point is something you're already familiar with, and if you have a clear goal in mind.

2
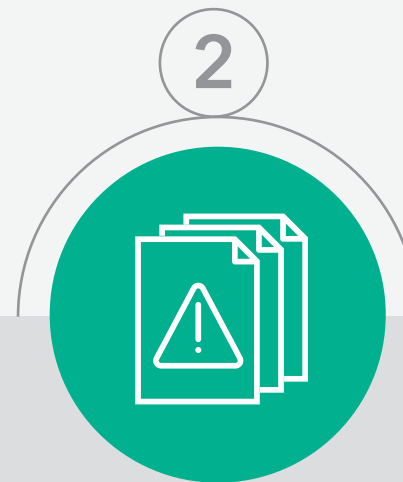
The most important data sets have priority

You must make a distinction between must-have data sets that will help meet your goal versus nice-to-have data sets that are not core to the task at hand.

Data may be a mix of structured, semistructured and unstructured data. Pour it all in and look at what your analytics platform comes up with to see if the results are useful. Consider if additional data management (e.g., data cleaning) is needed or whether you can continue using the current data sets.
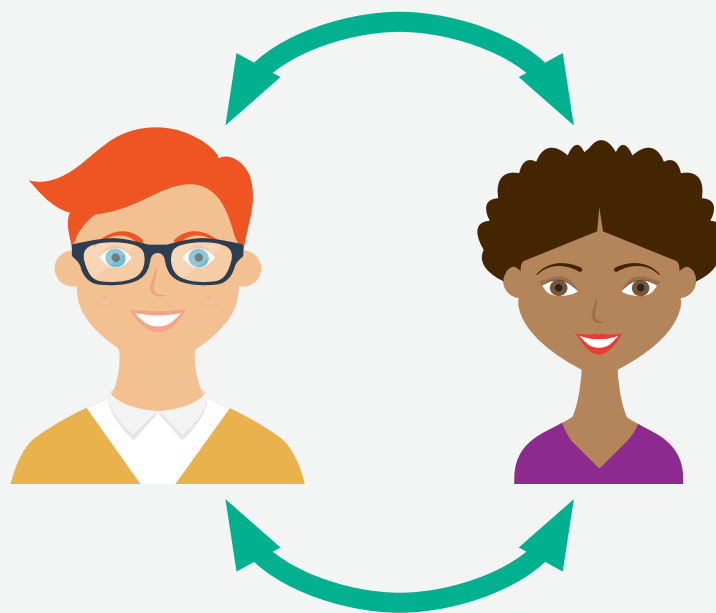
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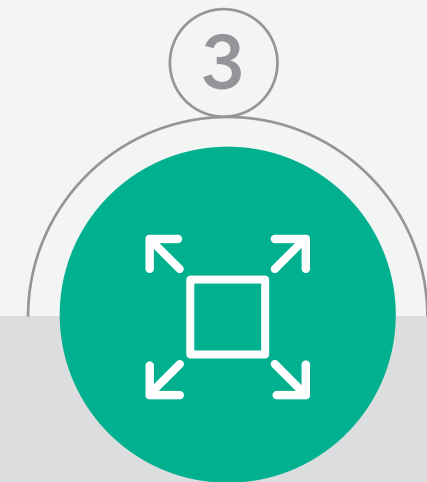
Expand the reach of your analytics platform

Once you have value-added results from a project, you can start sharing your analytics platform within and across teams. This can happen in a series of waves that create more and more buy-in as the results continue to show more benefits.
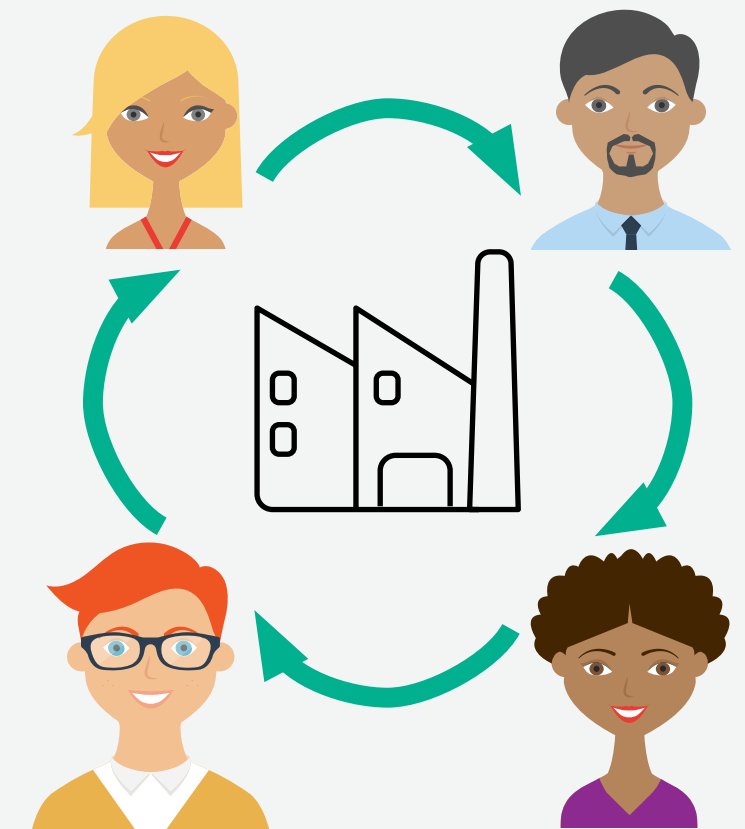
Start
Expand
within the team

Scale
Expand
beyond the team

Grow
Get the entire
organization on board

4

The data-driven organization is born

Once you've moved from a limited number of data sources to an all-encompassing data management flow – and you've extended the reach of data analytics from the few to the many, and every key decision is backed by data – you've truly become a data-driven organization. As you become better at analytics, you'll find that you move from hindsight to insight and even foresight. You'll no longer simply look back at what happened in the past – you'll steer your gaze to the future. Not only will you be able to track ROI on all data-enabled projects, you'll also be able to run predictive analytics and simulate what-if scenarios. The backbone of your business strategy will then be formed by indisputable facts.

ZOOM-IN ON
Eni

BELGIUM | ENERGY | MARKETING & OPERATIONS

a **360°** view **on your customers**

"We calculate how much the customer will spend with us (revenues) and how long they will stay (retention). We also predict when we might experience payment issues (credit losses) with them and how much it will cost us to serve their needs (service costs)."

Zdravka Jevtimov
Customer Insights Manager, Eni

CUSTOMER CHURN AND RETENTION CAN NOW BE PREDICTED.

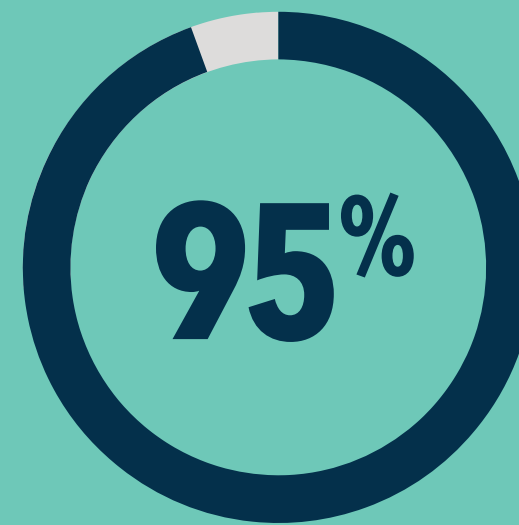FUTURE PROFITABILITY OF PRODUCTS, CHANNELS AND SEGMENTS CAN BE BETTER EVALUATED UPFRONT.

Eni is an integrated energy company with operations on five continents. In the highly competitive energy market, it's crucial to build long-term relationships with clients. That's why the company monitors and analyzes the behavior of its entire client base throughout the customer life cycle.

The company developed a solid and trustworthy prediction model using more than 700 parameters, which gave Eni's management:

» Valuable information about **customers**.

» Help in evaluating **future profitability** of the company's product portfolio, sales channels and customer segments.

» **What-if scenarios**, allowing them to assess the impact of strategic decisions, such as changes in price or margin, reduced customer churn and more.

» **User-friendly dashboards** that make it easier to keep an eye on the long-term profitability of the entire customer base.

95%

In an annual CIO survey, Gartner found that 95 percent of CIOs expect their jobs to change or be remixed due to digitalization. A majority of CIOs say that technology trends, specifically cybersecurity and artificial intelligence, will significantly change how they do their jobs in the near future.

Source: Gartner Survey of More Than 3,000 CIOs Confirms the Changing Role of the Chief Information Officer. Gartner Newsroom.

56%
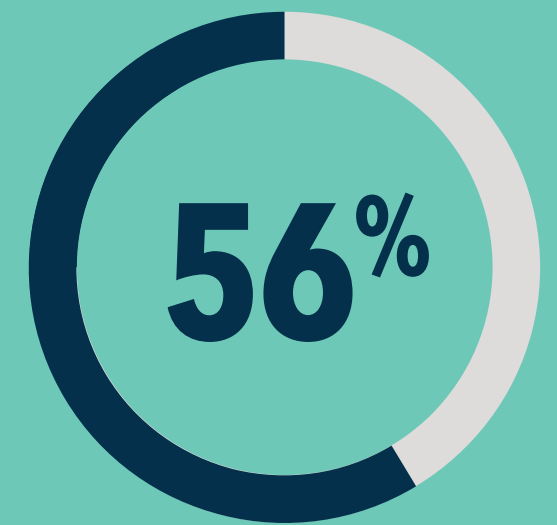
According to CMO.com, best-in-class marketers are 56 percent more likely to use data and analytics platforms. However, only 19 percent of marketers fully track all their marketing efforts with data.

Source: 15 Mind-Blowing Stats About Data-Driven Marketing. Giselle Abramovich. CMO.com.

The next level in
data-driven work

Being data-driven is not an end state. It's the beginning of an exploration of exciting possibilities. As the pace of technology innovation accelerates, yesterday's science fiction becomes today's reality. Here are some elements that will fuel future data-driven organizations.

On the edge of tomorrow

Edge analytics

Real-time, on-site analytics can track consumers' in-store behavior and pair it with the right kind of offer bundles to attract attention and address the needs of the individual. This effectively creates the **segment of one.**

Transparency

Why not be transparent with consumers about the huge amounts of data that are collected? Some information will always be sensitive, but offering transparency to your customers can be a big win in the branding department. According to recent surveys, more than 80 percent of consumers say **ethics matter** when they buy. With the EU General Data Protection Regulation (GDPR), adhering to **privacy rules** has become an absolute must.

Security

Analytics can be put to work for data protection as well. With advanced pattern recognition and correlating behaviors, risks can be assessed better and **cyberattacks or real-life security threats** can be prevented before they even occur.

IoT

With the wealth of data generated by machines, your production lines could map out ways to become even more productive, discover hidden costs and unlikely sources of revenue. The IoT and the Industrial Internet of Things (IIoT) are set to **revolutionize production,** as well as consumption patterns. That new reality is just around the corner.

AI

Artificial intelligence makes it possible for machines to learn from experience, adjust to new inputs and perform human-like tasks. AI relies heavily on **deep learning and natural language processing.** Computers are trained to accomplish specific tasks by processing large amounts of data and recognizing patterns in that data.

Supply chain

Experts can use big data to further optimize logistics. By taking into account various factors that influence delivery speed and reliability (e.g., traffic flows, accidents, weather patterns, rain storms), **smarter logistics** could even be used to operate more sustainably.

ZOOM-IN ON INTERAMERICAN

GREECE | INSURANCE | COMPLIANCE

BE FULLY GDPR COMPLIANT.
STRENGTHEN CUSTOMER RELATIONSHIPS AND TRUST.

Interamerican, the largest private insurance company in Greece, provides life, health and property insurance to more than 1 million customers – a vast amount of data to handle and protect. Interamerican used the opportunity presented by GDPR compliance requirements to bolster data protection, build customer trust and retain its loyal customers.

Under its new data governance model, employees operate in a more secure, efficient way. The new GDPR requirements provided an opportunity to invest in and boost the company's data ecosystem. New tools, expertise and knowledge are used not only to comply with regulations and protect the data, but also to advance data management practices by providing enhanced capabilities for data analysis, data quality and data handling.

"Trust is synonymous with insurance and is the cornerstone to building and keeping long customer relationships. We will promote this extended trust coming out of GDPR compliance, hoping to gain a clear advantage in the Greek insurance market. The GDPR is not just another compliance framework, but a great opportunity to enhance operational excellence."

**Xenophon Liapakis**
CIO, Interamerican

According to Deloitte, 93 percent of consumers use their phones while shopping. And 43 percent of those who are 25 to 34 years old report paying for products with or through their mobile phones at least once a week.

Source: 93 Percent of Consumers Use Their Phone While Shopping. Deloitte. Apparelmag.com.

93%
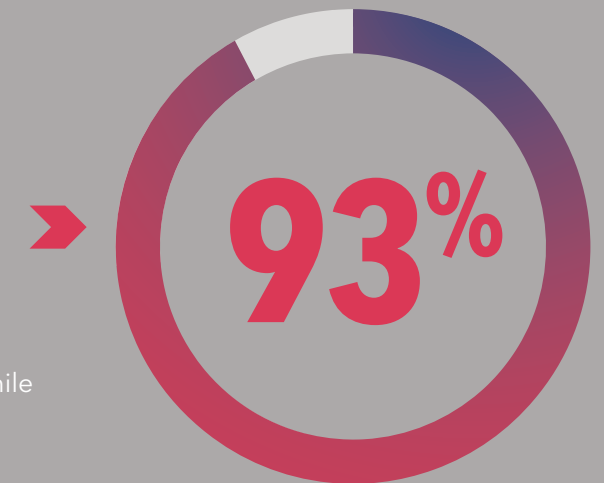
Making the transformation to IIoT-enabled business will require new skills and management thinking. Chief among those requirements, executives say, are new technical skills (51 percent), better data integration and analytics capabilities (41 percent), and rethinking of business models (33 percent). Most say their companies have significant gaps in these areas.

Source: Supply Chain Management Review. IOT Readiness Remains a Challenge for Many Industrial Supply Chains. Patrick Burnson.

51%
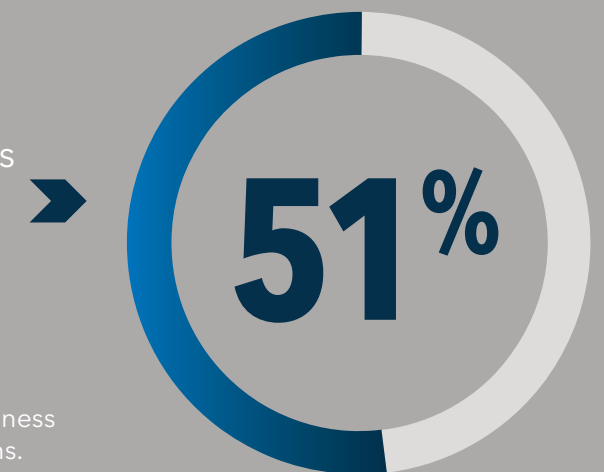
While 90 percent of government data analytics users report they have seen a decline in security breaches, 49 percent of federal agencies say cybersecurity compromises occur at least once a month as a result of an inability to fully analyze data.

Source: Government Use of Big Data for Cybersecurity. Daniel Gutierrez. Insidebigdata.com.

49%
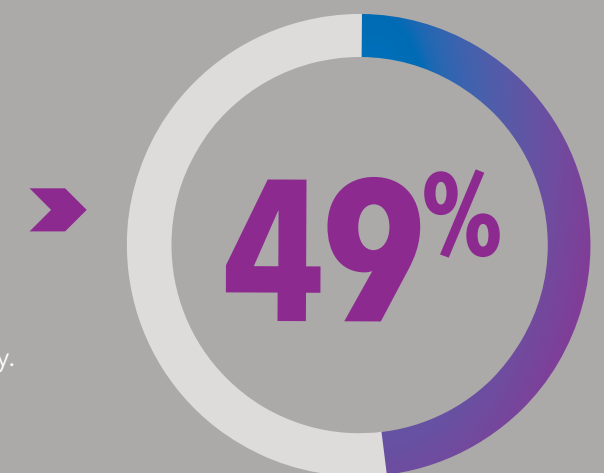
Getting in
on the action

Becoming a data-driven organization is now within reach of every company. Cloud solutions have made access to data analytics platforms much easier. Consider software as a service (SaaS), which allows organizations to rent software for as long as needed – no need to build and maintain everything on-premises. And with results as a service (RaaS), even organizations that lack the tools and expertise to turn their data into insights can get great results. These organizations simply share their data and business problem with analytics experts, then RaaS delivers results they can act on. This is essentially a way to "outsource" analytics.

By starting **your data-driven journey** in one specific area of your company, clearly defining your path toward data analytics, adopting the right mindset and technologies, and gradually extending the reach and impact throughout your company, you too can become the type of data-driven company that's **ready for tomorrow's challenges**.

Start your data-driven journey now. In no time, you'll find yourself wondering: How on earth did we run our business without analytics?

Learn more about the what, why and how of becoming a data-driven organization

Read more

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