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NERDERY'S 2022 GUIDE

# How to Become a Data-Driven Organization

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# For those looking to up their data game or for those just getting started. This guide is full of helpful insights that can help you **transform your business** using data.

When you think about the human brain, it is taking in information at lightning speeds (13 milliseconds to be exact), which allows you to make hundreds of thousands of decisions every day. But what would happen if this flow of information suddenly stopped? Your ability to make decisions or take simple actions would either be halted or nonsensical.

In this same sense, the modern day technology we use for work quickly produces, collects, and organizes data bytes that can power our decisions. But if this data becomes hard to access, it would be challenging to feel confident on any future decisions. This is a common challenge for many

businesses who are looking to make decisions quickly and accurately. On the other hand, when data's value is harnessed, it can be used in many strategic ways by an organization.

With our world evolving faster today than ever before, it's no surprise decision making supported by data has become top of mind for many business leaders. However, many organizations struggle with unclear metrics housed in siloed digital systems that can result in poor data quality and loss of profit – costing some U.S. businesses between \$9.7 to \$14.2 million per year. What's more, many companies do not have the right technology or data governance plans in

place, meaning that up to 73% of data goes unused.

This guide speaks to questions like, "How do I start creating a data strategy?" or "How can I improve my current strategy?" You will also gain a deeper understanding of how data can positively impact your business goals, such as creating personalized customer experiences and products, enabling efficiency in your operations, and more. Additionally, you will discover how to create a culture driven by data and how to set up your technology systems to be more data-centric.

# Four Ways to Get the Most Out of Your Data

**As our reliance on technology grows, more businesses are producing, transmitting and storing large amounts of data.**

The total amount of global data is projected to jump from 79 zettabytes in 2021 to 97 zettabytes in 2022. To compare, that's as much data as every grain of sand on the world's beaches 97 times over (yeah, it blows our minds, too).

While having the computing power to store data is one thing, having the ability to process and harness value from your data is even more important. Otherwise, it's seemingly irrelevant numbers and information clouding your way to seeing patterns, trends, opportunities, and potentially critical errors.

## USE CASE #1:

# To better understand your customers.

181  
ZETTABYTES

By 2025, the amount of data is expected to nearly double to 181 zettabytes.

Many organizations use customer demographic and psychographic information to develop user personas based on consumer insights and industry trends. Those inclusions are essential and shouldn't be omitted, but are you also considering real-time behavior from your actual customers in addition to marketing insights?

Modernized digital products use the Cloud and other new technologies to quickly process and make sense of vast amounts of data down to the user by aggregating usage patterns and social media posts. Utilizing these right kinds of data can optimize the features on your website, remove friction points for your users, allow for real-time pricing adjustments, and give you the inside-scoop into brand sentiment.

And with a clearer picture comes a greater ability to personalize touchpoints, make product or price adjustments, and ultimately, improve customer retention.

To ensure your data is accurate, your digital products should be agile and properly synced. Customer data changes quickly, and your technology needs to be adaptable to make quick decisions. In practice, your data should be easy to export with minimal manual manipulation. When organizations have multiple, incompatible reporting tools that are not "speaking" to each other and a lot of legacy data, that's a difficult task. Too much irrelevant and duplicative data can make it nearly impossible to get an accurate picture of your customers.

## USE CASE #2:

# To predict market and product trends.

If the constant supply chain or pandemic-influenced challenges have told us anything, it's that gauging future shifts is mission-critical. However, many organizations are not digitally mature and may be unable to forecast using their existing digital products.

Modernized digital products help organizations connect the dots between customer service, business, and product strategies with Big Data. "State-of-the-art artificial intelligence engines can analyze publicly available information spanning billions of web pages, patent filings, news sources, clinical-trials reports, earnings call transcripts, and more," said McKinsey

on ways data can identify early-stage trends. "By finding patterns in these disparate data sources, they can help executives identify emerging trends by, for example, measuring the change in the frequency of a term appearing in the data."

In Nerdery's partnership with SageGlass—an architectural glass manufacturer—we helped them create more actionable data to use for their predictive planning forecasts. In two months, our teams made a machine-learning solution that incorporated a fully-featured, custom-built prediction engine to reduce waste scrap and improve planning processes.

# 85%

YIELD INCREASE

The outcome resulted in an 85% yield increase and better profitability.

## USE CASE #3:

# To reduce inefficiencies and delays within your operations.

If you feel pressure from labor costs, increased capital requirements, and diminished visibility into shop operations, creating more robust data capabilities could be the answer. Often, work teams are separated by disconnected data silos or missing proper training on data collection tools. Or perhaps your digital systems are not equipped to handle new predictive data analytics software or only capture one piece of data.

Implementing data-focused digital products can help you reduce costs, maximize resources, pinpoint delays, and improve product quality. Put into practice, a leading manufacturing company partnered up with Nerdery to add sensors to their machines and developed state-of-the-art applications. This technology gathered real-time data that improved their visibility and productivity in their operations and helped them leapfrog competitors.

## USE CASE #4:

# To perform faster and more accurate reporting.

It's a given that finance and operations reports need to deliver as much value as possible and as quickly as possible-which is sometimes easier said than done when you're manually organizing data in spreadsheets.

Luckily stronger digital capabilities and innovative data governance plans exist to help teams better manage, analyze and utilize an overwhelming amount of information. Depending on your unique situation, several solutions may fit your needs:

01

### Improve savings

Auditing for opportunities to improve efficiency and lower labor costs means hunting for data silos or bogged-down tasks that have room for new technology or processes.

02

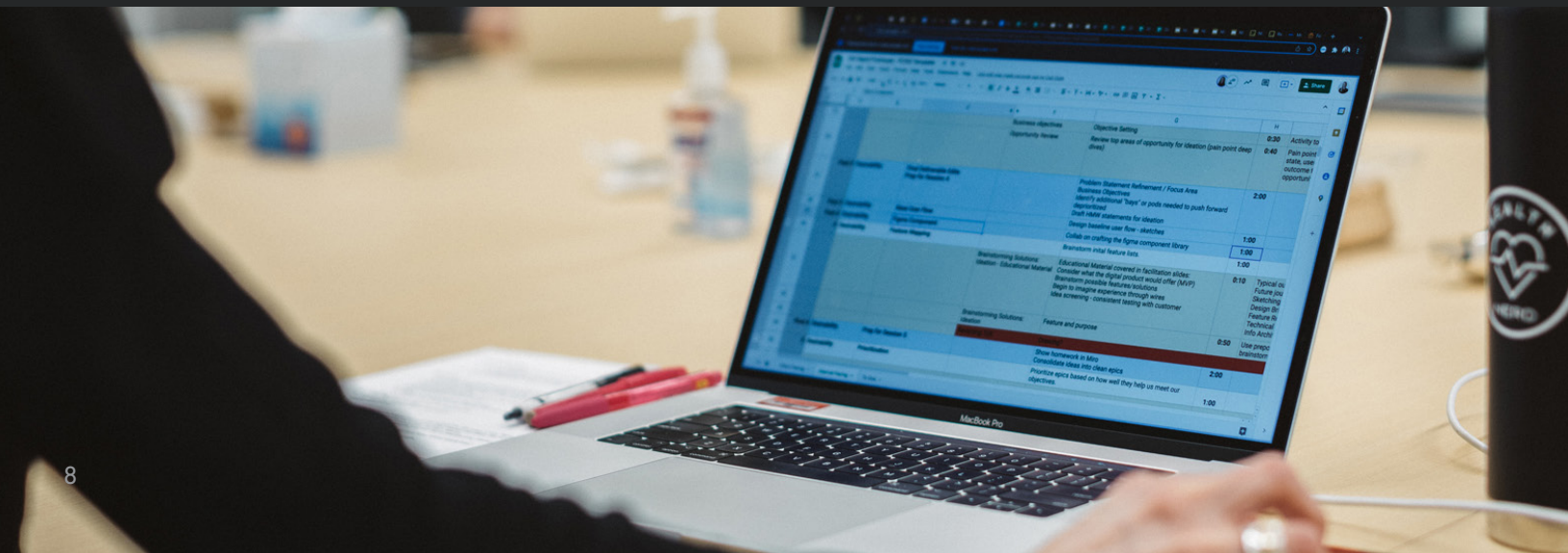
### Capture fresh data

Real-time, automated analytics and cloud-based solutions can quickly and securely harness data.

03

### Visualize dynamic insights

Data visualization technologies provide business leaders with new ways of looking at performance and financial directions.





The big takeaway?

# Data helps you make informed business decisions.

Data makes up the foundation of strategic decision-making. No matter your role or seniority, embrace a culture of data experimentation and innovation. Implementing new systems, features, or processes to your data collection efforts can help you feel less sluggish and more prepared to take on strategic forecasting and manage risk.

Data allows companies large and small to reenvision and more effectively understand their business and marketing operations—but ONLY if:

There is **buy-in and alignment** on organizational goals across the entire enterprise.

**Modernized infrastructure** is in place to give you the correct and complete data picture.

# How to be a Data-Driven Organization

(And How to Tell if Yours Is One)

**Being data-driven means using data as the universal driver of internal and external decision-making.**

Companies that either know how to get the most out of their data or measure success are on the right path, but it doesn't necessarily mean they're data-driven.

Organizations often overlook data as a separate entity and not as a strategic component of success measurement: a nice-to-have to help bolster success, but not the standard or basis for strategic planning across the organization.

Being data-driven is more than a tactic or an as-needed approach to strategy or development. It's a foundation. A cultural mindset. It tells us everything

we need to know about an organization's standing and what can happen next.

As companies become more tech-enabled, they see more value in data and its potential learnings. They throw thousands, millions, sometimes billions into supporting technology solutions to make data work better for them. But making investments in the right infrastructure is not enough.

According to insight gathered from Harvard Business Review, the main challenge for organizations that want to use data more efficiently isn't technical but cultural.

# What does a data-driven organization look like and **steps you can take** to get there.

## **There's a culture built around being data-driven, and it starts at the top.**

Think of the organizational decision-making process as building a staircase with the goals at the very top. Your data is your blueprint. It tells you how to assemble each step: what dimensions they should be, the tools and players involved to get to the top.

Without that blueprint, yes, you may have the right tools, and you have the

team to make it happen, but it may not come together very efficiently or quickly. You may waste a lot of time and resources along the way. The tools you invested in may not be helpful because you don't understand how best to use them.

Creating a data-driven organization starts by establishing a culture around data—and has to happen from the top down. When senior leadership cultivates a universal understanding that a product, campaign, plan, or initiative's success and future are based on data, this sets a precedent for everyone.



# Data-driven organizations know their data landscape.

One of the biggest pitfalls for many organizations is the amount of data gatekeeping that occurs – whether intentional or not. Technology platforms and the accessibility of data have evolved quickly, and its ability to be easily accessed, managed, or shared has not always been a priority. As a result, the platforms used to host data are often owned by a select few, are duplicative or out-of-date, or contain so many filters that it's difficult to determine if the data it provides is accurate.

When the steps to gathering and analyzing data are convoluted and indecipherable, it's easy to ignore its merit – or not even bother to question it.

As with many aspects of an organization, policies and protocols are typically well-documented, and roles and responsibilities are understood. Data management is no exception to this rule.

Data-driven organizations often have well-documented and well-observed policies and strategies to know who owns and can access which data and know exactly how it's shared across the enterprise. The data extracted doesn't have to be questioned or decoded in ideal circumstances. Data-driven decisions can confidently be made because there is shared accountability in managing them.

## Here are some questions to answer as you're building your data strategy:

- Where is all of my data coming from?
- What tools and technologies are used for data management?
- Who owns and has access to each product or system?
- How is data stored?
- How is information shared?
- Can data be accessed easily with no or limited manipulation?



## Data is easy to access and understand.

Let's say you have your data strategy, and you're going to focus on accessibility within that framework. As we mentioned data gatekeeping earlier, sometimes data can only be accessed or understood by certain people with the organization, making it difficult to get answers quickly.

With universal alignment on goals and responsibilities also come universal practices on storing and saving data. A consistent approach eases the burden of tracking down the insights you need.

## One approach to this is to determine if your data is **FAIR** (Findable, Accessible, Interoperable and Reusable)

### Findable:

Standardized terminology within meta descriptions, naming conventions, and data formats make searching a far less arduous task. It takes some up-front work to ensure these conventions are in place, but it can decrease the amount of time used for compilation in the long run.

### Accessible:

Once you find the data you need, you're able to pull it with little difficulty. This doesn't mean everyone in your organization needs access to every piece of data. Still, a documented governance strategy noting roles and procedures will make it easy to find out how to get the data you need.

### Interoperable:

One of the toughest steps. It means your data can connect to other platforms within the organization. Say a marketing analyst for an e-commerce company wanted to determine if a digital product issue is a cause for high cart abandonment rates. If the data tools are well-integrated, they would identify any correlations and outline next steps.

### Reusable:

When data is reusable, it is verifiable (the source is known and trusted) and non-restricted (can be used by multiple teams across the organization).

## Data is used for decision-making AND should tie to your goals.

Though we've talked about data as the driver of strategic decision-making, it also has to serve and support organizational goals.

Many organizations see data as something siloed and separate in many ways. Often data is an afterthought or a fudgeable component of the product plan. If you do have data engineers or scientists at the ready, they may not even be part of the product plan until it's too late.

As your organization works toward short- or long-term goals, the data you prioritize should always measure those goals. Let's say an organization's goal is to increase revenue by 40% and use digital products to help achieve those goals. Instead of looking at general metrics to understand how products are used (say, cart abandonment rate

for shoppers or revenue based on platform referring channel), take a step back and consider how product performance may be helping (or hurting) revenue. What data can tell us this story, and identify the exact metrics that will inform the product's progress towards increasing revenue.

Partnering with data scientists, agency partners, and stakeholders will make it easier to identify which metrics will show progress toward that goal.

It's true that for many, this is a dramatic change in how organizations operate, and – depending on your organization – it won't happen overnight, in a few months, or in the next year. It takes time, but the upfront work leads to more streamlined decision-making and more assured success.

# Data-Driven vs. Data Centricity:

## How to Build a Data-Centric Framework

Many organizations claim to be data-driven or data-centric, using the terms loosely and interchangeably. But the two are not the same and have particular applications.

As we talked about in our last article, being data-driven is a mindset that involves making strategic decisions based on data and insights.

In one way, data centricity is a mindset, but really, it's architecture.

Technologies and systems are built around the data they maintain and amassed over time. It's something that is tightly, thoughtfully managed, and data security is of the utmost importance.

For organizations to be truly data-centric, you have to start with a holistic data framework.

DATA-CENTRIC  
ORGANIZATIONS SEE  
DATA AS A FIXED,  
IMMOVABLE ASSET.

# Common components of a data-centric framework

01

**Business goals and data strategy**

02

**Data science and architecture**

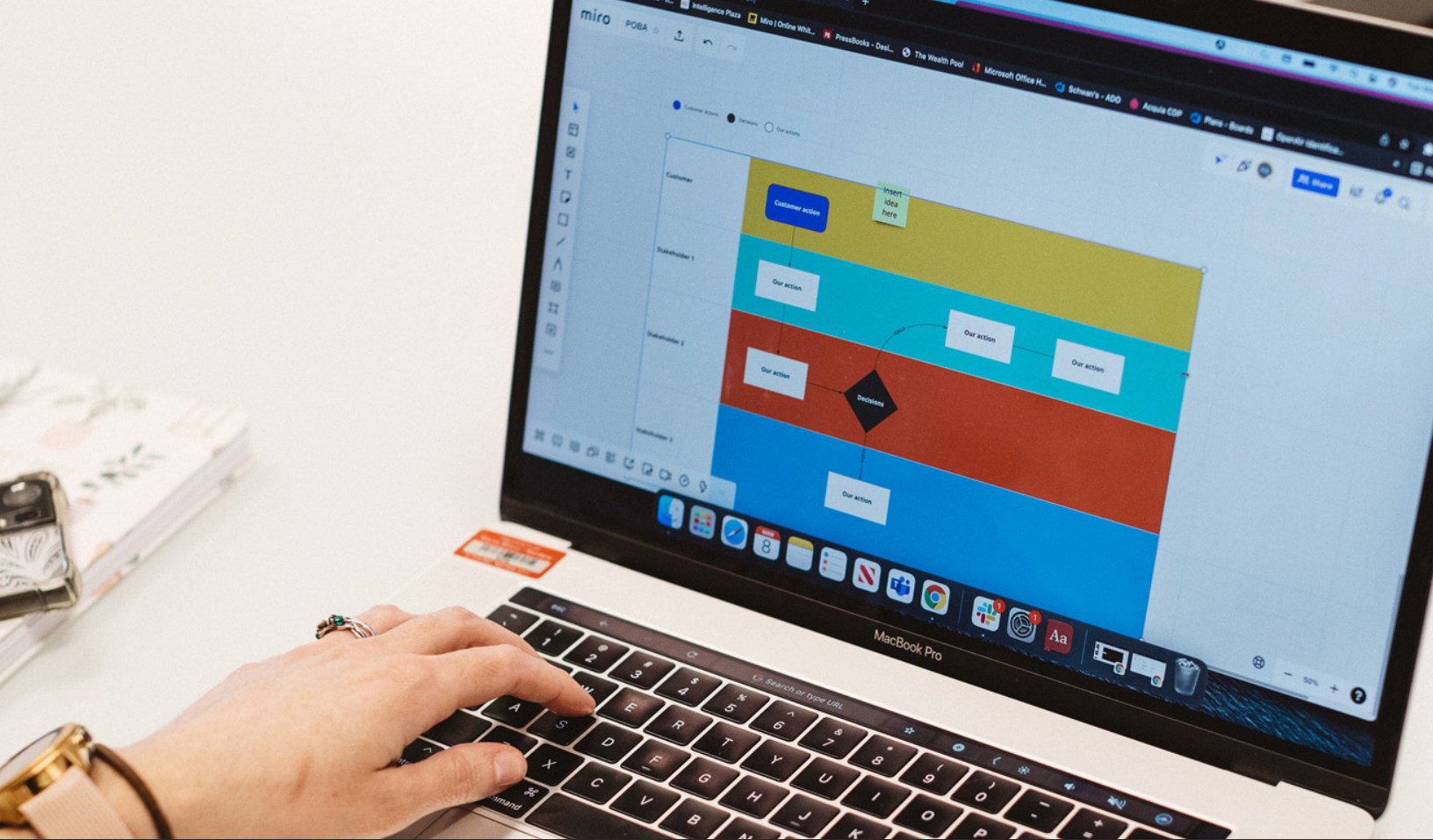
03

**Data governance**

04

**Reporting and visualization**





# 01

## Business goals and data strategy

The crucial first step to establishing your data framework is to understand and align to your organization's overall business objectives, which will help your organization use and interpret data across the enterprise, and use it to make business decisions.

For example, how is the cost of your data infrastructure tied back into business operations? Are there

opportunities to conduct a cost-benefit analysis to determine how your data infrastructure aligns with your business goals?

To answer these questions, look to data scientists and architects to provide the infrastructure to measure success and create the landscape for measuring the data strategy.

# 02

## Data science and architecture

Once the business goals and data strategy are set, you need the technology to support those functions and see how those technologies can produce the necessary data to measure success.

Data science involves looking at all systems that can produce the needed data to measure against organizational goals. It allows those extracting the data to evaluate performance but also for predictive analytics to forecast performance and even anticipate trends (or data modeling).

Data architecture is the process of identifying and designing technologies that can effectively manage data and enable modeling. Like data scientists, data architects will use business goals as the 'north star.' They work to ensure the right systems are in place to produce the information that aligns with a company's goals.

While these two disciplines are often separate, they complement each other. Because of that, it's becoming more common for the data science and architecture teams to have crossover duties.

### Data science can help with:

#### **Discover**

which models can help your company further streamline and quantify your business strategy.

#### **Determine**

which KPIs can measure success among certain audiences in different markets.

#### **Create**

models that show how your current strategy is likely to perform or how small changes can have a massive impact on revenue.

# 03

## Reporting and visualization

With the models and infrastructure in place, now it's time to present your data in a digestible way. As organizations get started on their data journey, they often see data as a smattering of indiscernible numbers.

Companies would need to understand the different ways to present data in a visual format. They need to determine which reporting tools and functionalities are available. Is the data presented in the correct format? Should the data visualization be interactive?

It's fair to say that most stakeholders with an organization are not data scientists or statisticians, so looking at data points on a spreadsheet is not always helpful.

It plots existing data and models and presents them in a more easy-to-understand format through charts, graphs, maps and other illustrative formats.

To make viewing data more relevant for different audiences, scientists and architects will create custom dashboards based on the organization's role and level of access.

DATA VISUALIZATION IS  
LIKE PRESENTING STATS  
WITH A PAINTBRUSH.

# 04

## Data governance

For data-centric organizations, legal and regulatory guidance is involved in ensuring data is secure and accessible – especially if your organization is accountable to European Union General Data Protection Regulation (GDPR) standards.

A suite of technologies and a strategy for managing data can turn into the Wild West without oversight. That's where a data governance framework comes in; it's a set of formalized rules and processes for how data is collected, stored, used, and for how it's disposed of.

Data governance is essential for technology companies and large organizations that maintain vast amounts of data over several years. Businesses would want to establish a data governance framework that outlines which type of data enters their systems and at which stage throughout the data lifecycle process.

Data can help organizations grow more quickly and systematically when accurate and properly managed. That's why 92% of companies who invest in data see a return on the investment.

92%  
OF COMPANIES

Who invest in data see a return on the investment.

# When data is your most powerful resource, it's time to adopt a data-centric approach.

Here are some common components of data governance documentation:

## Data org chart

Documentation that indicates which individuals and teams own which data and how much access they have.

## Technology documentation

A list of all technology platforms used for managing data and how each is used.

## Data lifecycle policies

Determines how long data is stored, where it is stored, and the process for removing data once it reaches the end of its lifecycle.

## Meta instructions

Meta-information includes descriptions within a site, app or platform to help make information findable through search and tagging. Having a consistent format and semantics guidelines for updating meta information makes looking for information easier.

## Security protocol

Potentially one of the most important tools in the framework, security policies determine how data is stored and protected. It should also include protocols for data breaches if they occur.



# Refine Your Data Strategy

**Data needs to be built into your strategy from the very beginning.**

With the right technology, processes, and culture, you will start to achieve your desired business results and stay ahead of competitors. Nerdery is here to help you get started – whether you want to measure real-time product performance, optimize decision-making frameworks, or create data visibility for all team members involved.

**Get the most  
out of your data  
by connecting  
with Nerderly's  
Data Experts.**

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