MODE

The Path to Data Democracy

A Data Maturity Guide

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Introduction

A best-in-class data team can change the course of any organization

Many companies use data, but don't see the value in making it a top priority. Some examples could be that you didn't get the budget for the best tool on the market; data access isn't truly company-wide; or stakeholders simply don't know what to do with data and might prefer to default to gut instincts.

Overall, your company's "data-driven" claim may be aspirational at best or a misrepresentation at worst.

Regardless of the reason, the impact of overlooking data is not minimal and creates long-term damage. If investments in data continue to get sidelined, the organization loses its ability to make data-informed decisions quickly, affecting its position in the market. It then becomes easy for the data team to become siloed and lose influence, and for data use itself to be disbanded.

So how do you start making data a priority for executives and ensure its being used throughout an organization?

> **"** While most organizations are attempting [digital transformation], only a small percentage are getting it right.
>
> **- Harvard Business Review**

By first identifying where your company lands on a data maturity scale, and then earning buy-in from stakeholders with compelling and urgent business cases.

In working with hundreds of data teams, we realized that without a clear roadmap of data team growth, it becomes difficult to diagnose problems and communicate why data should be at the helm of your company's corporate strategy.

So we created a guide—a data maturity model—to help you identify, by common stages, where your company stands with data. There are five stages in this data maturity model—each with its own defining characteristics and pain points, informed from hundreds of conversations with data teams of various sizes. We've organized their cumulative successes and failures into a data journey, from those who are just starting to use data, to those that have nearly org-wide adoption of data.

Before we introduce you to the stages though, we'll take a look at the four elements that influence data team maturity.

What stage of data maturity is your company? Find out with our data maturity assessment.

Take assessment →

Four Criteria to Diagnose Data Maturity

We've identified four elements that advance or detract company-wide adoption of data: people, processes, tools, and culture. Think of these elements as active ingredients; achieving the next level of data maturity requires a specific formula across these four elements.

PEOPLE

This element consists of anyone that uses data as part of the decision-making process. There are two core expert groups:
Data experts are data professionals who lead data efforts across the organization.
Domain experts are business professionals who have functional expertise.

PROCESSES

This element refers to any analytical decision-making procedures. They include governance practices, dashboard creation, self-serve guardrails, and guidelines for experimentation. Processes ensure alignment so that a company can leverage data at scale.

TOOLS

This element refers to the tools in your data stack. The choices for an ecosystem of tools, including data sources and data architecture, should be informed by business outcomes.

CULTURE

This element refers to the values and behaviors that contribute to a company's unique social & psychological environment. Culture shapes how a company operates and makes decisions, ranging from hiring practices to prioritizing initiatives. Culture is the most important of the four guiding elements.

The Data Maturity Journey

The data maturity journey consists of five stages. These five maturity stages are fluid, so it's possible and even likely that you find, for example, your processes in one stage and tools in another.

In the first four stages, one or two elements will have more impact than others, and in the last stage—the highest data maturity level—we will see all of the elements having equal weight. So buckle up, and let's go on this journey together.

Stage 1:
Patchwork Analytics

Stage 2:
Departmental Analytics

Stage 3:
Reactive Analytics

Stage 4:
Proactive Analytics

Stage 5:
Democratized Analytics

Stage 1: Patchwork Analytics

Defining characteristics

Decentralized with a patchwork of tools, data sources, and a lack of a company-wide data strategy to enable decision-making.

PEOPLE

There is no official data team. Data efforts are led by dispersed operational analysts, and domain experts rarely lead with data to make decisions.

PROCESSES

There is a hodgepodge of data processes across the organization.

TOOLS

There is a patchwork of analytical tools, including spreadsheets and various in-app reporting tools.

CULTURE

The company mainly places work experience and instinct over data.

At this maturity stage, companies have a patchwork collection of data tools with siloed data and minimal data strategies. These collections of tools could be printouts, in-app reporting, and spreadsheets. Additionally, there is, if anything, a mess of data processes that are usually departmental or workflow specific, not company-wide.

Analytics is mainly descriptive —the team interprets historical data, including industry benchmarks, to understand or recommend changes in the business.

The path forward

To exit out of Patchwork Analytics, you will need to focus on culture. The goal is to establish the importance of data, which will be a foundation for later success.

Stage 1: Patchwork Analytics

STAGE 1 WITH MODE

A Fortune 500 financial services media company reported ad spend ROI via spreadsheets and email, which usually take weeks. Now they're leveraging Mode to automate insights, generate client-facing reports in hours.

The implications

Under these conditions, time-to-insight and time-to-decision happen in months, not days, because there is no alignment on metrics and goals. For example, two departments often disagree on the definition of a common metric because they're using different sources. And since it's hard to get relevant, aligned data, domain experts and leaders usually default to gut instinct and work experience when making decisions. Ultimately the culture ends up not being data-driven.

Moving beyond the Patchwork stage requires focusing on culture, which will let your data experts begin to have more influence. At this stage, the data experts are business or operational analysts.

When there's a shift toward data-driven culture, the other three elements can be more easily changed. But how do you make a business case for culture change and then put it into action?

Stage 1: Patchwork Analytics

Building the business case

How do you convince your leadership and organization to create cultural change around data?

Show that culture has a direct correlation to business outcomes. Provide executives with a view of the negative impacts when the company doesn't use data, and highlight the potential ROI when it does. To a benchmark for ROI, establish a small proof of concept.

Create a proof of concept that will help drive success. Identify the group that needs data the most. Propose that data should augment all decisions in a set of projects and then track and document success. Get testimonials from stakeholders in the project. We recommend starting small and building momentum. Begin with sharing concrete facts.

Get a public commitment from leaders to drive organizational alignment.
Present your results of the two above initiatives to the company and get leadership to publicly commit to next steps. Public commitment will empower employees to hold leaders accountable for the cultural change.

STAGE 1:
PATCHWORK / STAGE 2:
DEPARTMENTAL / STAGE 3:
REACTIVE / STAGE 4:
PROACTIVE / STAGE 5:
DEMOCRATIZED

Where to begin with this transformation

CULTURE

Clearly define the culture around data.
Make clear the importance of new behaviors that should happen around data. Communicate the new value(s) as needed and make clear that managers should start requiring data to approve initiatives.

PEOPLE

Leaders lead by example.
Leadership needs to drive this new culture in behavior, words, and choices. This cultural change will require executive sponsorship and alignment with the CEO and board members.

Recruit a change agent. Find change agents—those who are using data already—to help support and drive cultural transformation. At this maturity stage, change agents are usually business, operations, or financial analysts. Every decision-maker should collaborate with these individuals.

PROCESSES

Create conditions for success.
For any cultural change to be successful, a company needs to develop the right conditions, and the right conditions mean providing the right tools and processes for people to access data quickly. Start to establish metrics, goals, and sources of truth for each department.

Stage 2: Departmental Analytics

Defining characteristics

Data is siloed. Some departments take the lead in data maturity over others.

PEOPLE
There is no centralized data team, but a data expert might exist in some departments beyond your regular operational or business analyst.

PROCESSES
Departmental data processes are more defined than company-wide processes.

TOOLS
Some departments have more robust tools than others, with little consistency across the whole organization.

CULTURE
Some departments have a more robust data culture than others. Company-wide data alignment is still low.

As alluded to in this stage's name, data in this stage is department-driven, siloed, and not connected across teams. Various departments in this stage may have established their data sources of truth—usually a cloud reporting tool or, in advanced cases, a BI tool. Departmental stakeholders use a combination of spreadsheets, canned reports, and BI dashboards to conduct their analyses and make business decisions.

There are still no centralized data teams, tooling or processes. Data-driven decisions are made within the department level rather than a company-wide level with few agreed definitions.

The company perceives data as a tool for performance tracking and nothing more; therefore, analytics is still mainly descriptive, with rare cases where an advanced department may start to leverage predictive modeling.

The path forward

To exit out of Departmental Analytics, you will need to focus on centralizing data resources and processes. The goal is to create alignment between siloed data practices between departments.

Stage 2: Departmental Analytics

STAGE 2 WITH MODE

The head of customer success enablement at a large recruiting software company created a Mode report that leverages external recruiting data and platform data to examine role qualities. His team used it to advise clients on how to increase recruiting effectiveness, including the close of their biggest deal to date.

The implications

In this stage, time-to-insight & time-to-decision can vary widely between teams. The disjointed data environment could mean that decisions spanning multiple departments can take weeks, months, or sometimes longer to make. The company can't bring aligned data together when decisions need to be made quickly.

Moving beyond Departmental Analytics requires a focus on aligning processes, tooling, and people elements, which will enable business decisions to be based on an agreed logic and strategy.

Building the business case

How do you convince your leadership team to centralize and invest in new data resources, operations and processes?

Show that centralized data tooling and resources increases organizational efficiency. Consolidation of redundant tools and resources creates a single source of truth where all departments read from the same map. Think about tooling and processes holistically as a cohesive system.

Where to begin with this transformation

Centralizing your tooling and processes can be complicated, but is worthwhile. For a startup, the primary benefit is scale; centralized and optimized tooling and processes enable growth to happen faster. For an enterprise, the primary benefit is increased efficiency from alignment.

Centralizing your data resources leads to a variety of cost reductions, from removing redundancy to vendor negotiation. At minimum, it provides support for internal education, best practices and larger cooperation.

PEOPLE

Create a centralized data team. At this point, the company has deployed new governance practices and consolidated data tooling. A centralized data team can help maintain these new practices and further development of data strategy.

PROCESSES

First, create alignment on data governance and get buy-in. Governance is part of processes, and contrary to some beliefs, it starts outside of tooling. To facilitate alignment on governance, think about creating a workshop to educate and answer questions. A workshop can also enable stakeholders to better define overall success. Eventually, a dedicated group might come together and create a common operating framework of governance.

TOOLS

Create a consolidated data tooling inventory and simple strategy for greater data access. The company needs an ecosystem of data tools that will connect and provide access to all types of cross-functional data. See our suggestion for **how to build a modern data stack in 30 minutes**.

Stage 3: Reactive Analytics

Defining characteristics

Data is centralized, but not accessible for everyone.

PEOPLE

There is a centralized data team, but their analyses are mainly reactive to data requests.

PROCESSES

There are basic processes for analytical work, including a ticketing system for requests of new dashboards and a QA process for publishing dashboards.

TOOLS

There are centralized self-serve BI tools, but overall, the tooling is rigid, making it hard for the data team to service all requests.

CULTURE

People think of data as a tool to track performance, but not nothing more.

In this stage, the company likely has one enterprise-wide BI tool, accompanied by a data stack that automatically pipes data from different sources into one centralized warehouse.

There is a centralized data team that assists in all tasks relating to analytics and insights. They field requests from executives, middle managers, and in some cases, individual contributors.

The company is working toward data democratization, and as a result, they invest heavily in self-serve analytics tooling.

Finally, as a reaction to the siloed data in the last stage, leadership has reinforced fundamental governance practices, including standard business logic and role-based access to data.

In this stage, analytics is descriptive for the majority of stakeholders, and in some advanced cases, the data team begins to use predictive analytics.

The path forward

To exit out of Reactive Analytics, you will need to acquire more advanced tooling & processes to proactively answer more strategic questions & define how the business thinks about problems. Focus on the larger cultural change and consider how to set up the first pilots of controlled experiments.

Stage 3: Reactive Analytics

STAGE 3 WITH MODE

A large online book reseller created a company-wide Mode dashboard to track operational efficiency of their inventory. Within the first week, they identified and eliminated processing issues, saving up to $30k per year.

The implications

The culture emphasizes using data mostly for performance tracking. As a result, the company doesn't use data beyond company-wide dashboards. While these dashboards make teams more informed, they don't necessarily help the company become a category leader.

The data team supports company-wide dashboards for performance tracking, and spends less time on strategic projects. They become reactive, servicing long request queues. This issue is partially due to tooling that prioritizes the needs of domain experts, not data teams. The result is that data teams can't complete requests fast enough and the speed to arrive at insights and decisions varies. Dashboards can spur the proliferation of domain expert questions without any of the ability to answer those questions directly.

The self-serve analytics approach presents another issue: data literacy. On the surface, self-serve appears to save more time than it actually does. Stakeholders have access to data, but might not know how to use the tool or analyze it to accurately answer questions.

It's common to see a lot of companies get stuck in this stage because most of them aren't thinking of data beyond business-as-usual performance tracking.

Exiting out of Reactive Analytics requires a mindset shift from thinking of data as a performance tracking tool to a tool for innovation to start earning a competitive edge in the market.

STAGE 1:
PATCHWORK / STAGE 2:
DEPARTMENTAL / **STAGE 3:
REACTIVE** / STAGE 4:
PROACTIVE / STAGE 5:
DEMOCRATIZED

Stage 3: Reactive Analytics

Building the business case

How do you convince your leadership team to update your data culture, and re-evaluate data tools through the lens of innovation?

Drive innovation with data.
Data shortens the innovation cycle and helps point it towards your most successful customers. The core message here is that a company can't stay relevant or have a competitive advantage if they're **spending the majority of their time on dashboards**.

Innovate faster with advanced tooling.
You'll want to start thinking about more advanced strategic questions, beyond dashboard basics. You may begin to start early experimentation at this point. This doesn't necessarily mean more tools and a bigger budget; it means optimizing ROI and scaling for wider, proactive use.

Increase employee effectiveness with a data literacy program.
Employees are likely to move faster if they have the right data skills, which could lead to a better work experience and increase retention.

STAGE 1:
PATCHWORK

STAGE 2:
DEPARTMENTAL

STAGE 3:
REACTIVE

STAGE 4:
PROACTIVE

STAGE 5:
DEMOCRATIZED

Where to begin with this transformation

PEOPLE

Data engineering begins to scale. This is no longer a partial engineering resource and is, at minimum, a solo data team resource. This person owns much of the data infrastructure (into warehouse and update frequency) going forward.

Identify your best domain experts as citizen analysts. These are your compatriots in change management. Know who is most effective in introducing data as part of their domain expertise and involve them in the next phase's process, people, and tooling needs.

PROCESSES

Gather resources for data literacy. An easy solution for this is to create a library that links out to online resources, like **Mode's SQL school**, **Python school**, and **SQL Challenge** program. Also include outlined steps of how to access your data stack.

Plan for extended use across the company. Not only will you need a learning program, but you will need to onboard more people to your tooling, add more data sources, create a staging environment, and QA the work of up-and-coming citizen analysts.

TOOLS

Bring in best-of-breed tools for data scientists. Acquire data tooling that optimizes for the speed of an analyst's workflow. New tools should automate data pipeline maintenance and alert the team when issues arise, while freeing the data team's time to identify insights and opportunities.

Start to build the infrastructure for a more proactive data program. To use data systematically, the company should start planning for proactive use across the organization, including the start of a full experimentation program.

Acquire tools that allow collaboration amongst data and domain experts. Collaboration is critical to move away from siloed data. A finding from a specific project may help another project directly or indirectly.

CULTURE

Help your team think about data as a path to innovation. Rather than a measure of performance tracking, use data to help business stakeholders get insights to questions they didn't know they had. This will likely help them iterate on their strategy and think of data as a well to mine for new insights (think encyclopedia vs. dictionary).

Stage 4: Proactive Analytics

Defining characteristics

There is a data-driven culture that proactively seeks out opportunities with data. The rise of citizen analysts is a key characteristic.

PEOPLE

Data team members and business stakeholders collaborate often.

PROCESSES

There are more processes to support data practices at scale, like data pipeline automation and data literacy.

TOOLS

Tools are flexible and cater to different skill levels. There is an experimentation platform for the data team.

CULTURE

The culture encourages viewing data as a product, and not just a performance tracking tool.

The path forward

To exit out of Proactive Analytics requires an investment in a more advanced data infrastructure and processes that support wide adoption of data and a proactive mindset across domain experts.

Stage 4: Proactive Analytics

In this stage, analytics is primarily prescriptive and data teams use exploratory analytics to drive innovation, including controlled experiments.

Automation is now bi-directional, going from data sources to analytical tools and back. The infrastructure also provides alerts if and when models break. At this stage, the company has started to deploy machine learning (ML) models for advanced use cases, potentially leveraging controlled experiments managed by the central data team.

There is a variety of data tooling to serve different folks with different data needs. Thus, there's more collaboration between data analysts and domain experts, and data teams are doing less reactive analytics and more strategic advising.

There is also a rise in citizen analysts—domain experts that are comfortable with any BI platform and in an increasing number of cases, can query the data reliably on their own. The growth of citizen analysts is often a sign of data maturity.

STAGE 4 WITH MODE

Doordash uses Mode to conduct switchback tests and **randomized experimentations** to determine the best routes for drivers, restaurants, and customers. This proactive approach has improved both delivery time and customer satisfaction.

Stage 4: Proactive Analytics

The implications

High data literacy, combined with modern, flexible tooling for both analysts and domain experts has generally decreased time-to-insights and time-to-decisions. The data science and BI tooling converge at this stage, allowing teams to see how critical decisions affect each other. The transparency of how decisions affect each other can help teams A/B test outcomes at scale.

Until this phase, the data team will still see a fair amount of repetitive questions from the business stakeholders. The shift here is for the data team to be able to get ahead of a volume of requests and be able to drive the business problems they are best equipped to solve. The service level agreement (SLA) becomes less oriented around the number of tickets resolved & more around dedicating data resources to the organization's most pressing business problems.

Exiting out of the Proactive Analytics stage requires a wide adoption of the proactive mindset from domain experts and then tools to help them discover and dig deeper into data.

Building the business case

How do you convince leadership to use data to become a category leader?

Frame tooling as part of speed-to-market.
You need the best set of tools that let stakeholders do analysis based on their skillset. Additionally, the data teams must be fortified with the best speed-to-analysis workflows so that they can tackle both ticket items and mission-critical investigations.

Hypergrowth companies must constantly re-evaluate data processes as they scale.
Every milestone in growth requires new or modified processes to accommodate for new changes.

Where to begin with this transformation

PEOPLE

Empower domain experts to act independently where appropriate. Create an environment for citizen analysts to thrive in with data applications. Give them the context to dig deeper into strategic questions on their own, spurring them to ask questions based on their domain expertise. They should have the authority to launch experimentations where relevant & specific.

PROCESSES

The data literacy program should expand from business teams to data teams. There should be an advanced track for those in the data teams and citizen analysts, and a standard track for everyone else.

TOOLS

Consider implementing data discovery tools so stakeholders can access information. If you want domain experts to adopt a proactive mindset, you'll need to create the condition for success. Start thinking about tools that will support data discovery or knowledge-sharing; these tools will allow domain experts to explore any completed or in progress analysis.

Building data applications to operationalize analytics at scale. Dashboards could evolve into having specific UIs and drive a higher degree of usage from domain experts. Another data application could be embedded analytics.

CULTURE

Begin to push this proactive mindset holistically. There may still be corners where effort is duplicated, data provenance is unclear, or cultural inconsistencies persist. This issue is one part cultural or mindset and one part tooling or processes. The mindset change that needs to happen further is for domain experts to drive proactive questions without the data team's push.

Stage 5: Democratized Analytics

Defining characteristics

The company uses data to inform nearly all decisions. The majority of domain experts are also citizen analysts, and are active in ongoing experiments.

PEOPLE

Most business stakeholders are citizen analysts, regardless of seniority level.

PROCESSES

The company has a process for when and how data teams should invest in data applications and distribute access. Experimentation extends from the data team to the larger organization.

TOOLS

Data discovery or knowledge-sharing tools that democratized data for the entire organization. Data applications are on the rise.

CULTURE

The company's culture intertwines with data and views it as a critical asset.

The path forward

You're leading your industry, show us what the next level of data looks like.

STAGE 1:
PATCHWORK

STAGE 2:
DEPARTMENTAL

STAGE 3:
REACTIVE

STAGE 4:
PROACTIVE

**STAGE 5:
DEMOCRATIZED**

Stage 5: Democratized Analytics

The implications

Data is completely democratized at our highest maturity level because these companies have perfected the balance of processes and tools, and most importantly, the right combination of people and culture. Time-to-insights and time-to-decisions can happen quickly and simultaneously across teams. Data tooling becomes more customized to the business as it scales.

Ultimately, because data provides shared knowledge, all decisions are easier commitments and are based on a shared understanding of the business landscape. More options become available, either for innovation or resolution, earlier in the decision-making process.

Everyone has a clearer path to an answer, which can take many benevolent forms, including: improved risk management in operations, lower buying or product usage friction for customers, and better product-market fit based on clearer knowledge of the customer across go-to-market.

Conclusion

Data democracies change the bottom line

Data is central to any successful business, to a degree never seen before. Data leaders are in the best position to help their companies realize its potential with data—the possibility to become a category creator, disrupter, or leader by optimizing any and all decisions.

Fundamentally, a data democracy provides for two outcomes: better business decisions and better customer experience. Decisions are no longer fraught and are delivered with greater speed, agreement and efficacy, which ultimately changes both revenue and an organization's position in the competitive landscape.

The urgency of the moment and the high potential benefits of data are why we've created this guide—to help you evolve and put data at the core of your company's strategy.

"This feels like a watershed moment. Data is at the forefront of everything."

- ANDREW ZIRM,
  Senior Data Scientist
  Greenhouse

What stage of data maturity is your company?
Find out with our data maturity assessment.

Take assessment →