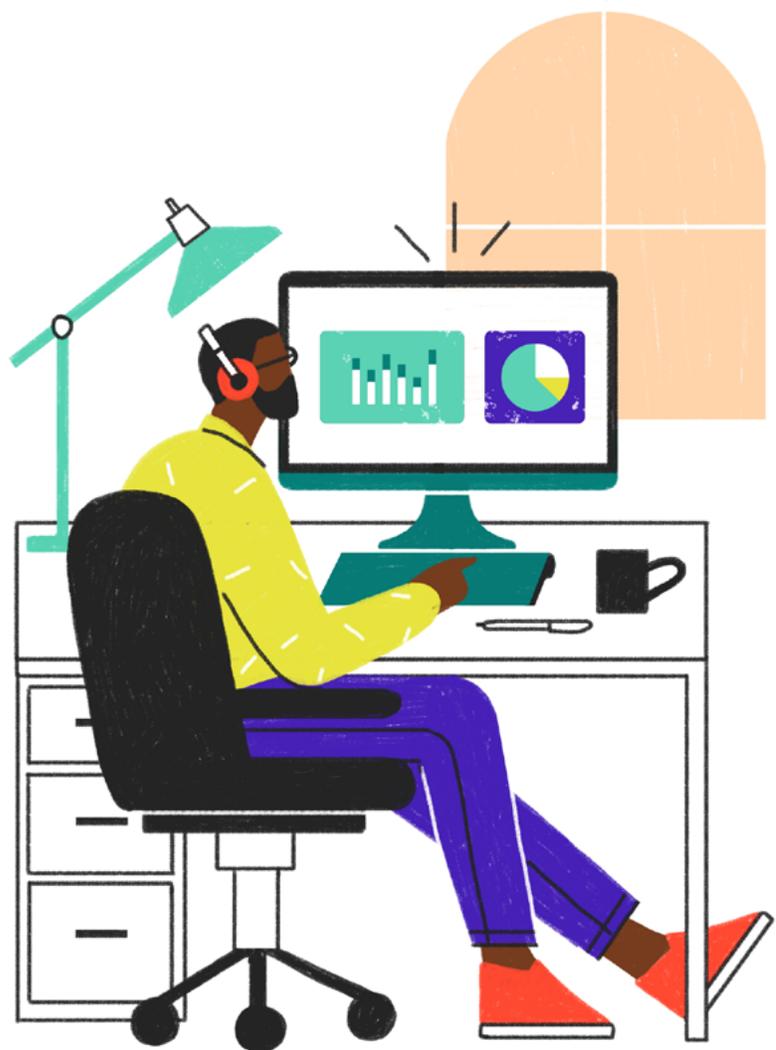


Ebook

Data Literacy: An Essential Skill For Every Employee



Not long ago, many job descriptions included lines like “must know how to use a computer.”

Times have certainly changed. Now that we’re all carrying supercomputers in our pockets and most job applications are submitted online, basic computer skills are practically given today.

Data literacy is the next frontier for knowledge workers. It includes a broad range of skills, from reading and analyzing data to communicating its meaning and placing it in a larger context.

Understanding of data and its applications is an area where many companies are currently falling short. Only 21% of employees are confident in their data skills. And this number isn’t much better for leaders — just 32% of executives say they can create measurable value from data.

As basic computer skills were once a foreign concept to the workforce, data literacy is the current language of business. And companies must help their employees speak the language and understand how data literacy helps them make better decisions for the company.

“”

Data doesn’t speak for itself; it needs a storyteller.



Nancy Duarte

Author of DataStory: Explain Data and Inspire Action Through Story

Executive Summary

Leaders might be shocked at the lack of data knowledge in their workforce but data illiteracy in companies was not as obvious years ago when data sources were limited. Now, the world is on the path to generating 463 exabytes of data daily. That's equivalent to the amount of data stored on 213 million DVDs.

To not capitalize on that amount of data to build better products or streamline efficiencies leaves a company noticeably far behind its peers. Data literacy leads to better decision-making, and ultimately, better business results.

This guide will help you take an honest look at your company's current data proficiency and how to build the foundation of a data literacy training program. **You'll learn:**



Why adopting data analysis tools alone won't close the skills gap.



How to assess your company's data literacy and create clear definitions of competency.



The action steps that will help you create a data-savvy workforce.

1

Focus on skills, not tools, to close the data literacy gap

2

Don't assume your organization's workforce is data literate

3

Build a more data-savvy workforce step-by-step

1

Focus on skills,
not tools, to close
the data literacy gap

The plethora of data and its potential value to business have sparked a gold rush for tools that enable knowledge workers to access, manipulate, and visualize it all.

In fact, some estimates say the market for business intelligence software like Tableau and Microsoft's PowerBI is expected to generate \$29.48 billion in revenue by 2022.

Self-services data tools that offer easy-to-read dashboards and reporting options seem like a quick fix for putting the power of data at employees' fingertips. But without a central data literacy plan for your company, it's a band-aid solution. According to Seagate Technology, 68% of data available to enterprises is never used.

To put it lightly, spending money on business intelligence software won't close the data literacy gap at your organization.

If you want to unlock the potential of your data, you need to improve data literacy across your organization. Employers have to help employees build the skills to interpret what the tools are telling them and the ability to share these insights widely. Then — and only then — can your workforce leverage the power of business intelligence tools and transform your business into a truly data-driven enterprise.

Does this sound overwhelming? It shouldn't. Building a data literate workforce doesn't mean everyone at your company needs to become a data scientist. At its most basic definition, data literacy is the ability of a workforce — at various proficiencies — to read, work with, analyze, argue (communicate) with data through the organization.

In the next chapter, you'll take the first and most important step to becoming a more competitive, data-rich organization.

Data literacy is the ability to...

But many companies struggle to...

Read data

Understand how to use much of the data they're collecting from customers and internal systems.

Ask the right questions of their data and build experimentations to answer those questions.

Work with data

Efficiently store, clean, and manage data to use the right data at the right times.

Analyze data

Filter, sort, compare, and test the validity of data.

Develop meaningful and reliable analysis of data findings.

Argue with data

Make data visualizations for all stakeholders to understand.

Tell a story with data findings that allows the company to take actions that results in positive business outcomes.

Insights from [HBR](#) and [MIT](#)

2

Don't assume
your organization's
workforce is
data literate

No matter how certain you may be about the data literacy of your workforce, it's important to test your assumptions. You might have a large number of employees that can call themselves Excel Wizards, for example, but that doesn't necessarily mean they're data literate.

Start by conducting an assessment to look at the full scope of your workforce's data knowledge, from novice to expert. What you'll notice is that, similar to defining the proficiencies of anyone learning a new language, the data skills across your organization will vary.

Next, create a data literacy rubric that defines different levels of proficiency within your organization. This framework provides a starting point, but you will likely want to tailor the examples and definitions to your company and industry. Once you've evaluated individuals and teams, the framework guides their journey to becoming more data literate.

Level	Knowledge
Novice	Understands basic data concepts including visualizations and storytelling through data. Has difficulty explaining these concepts to others. Needs help applying analytical thinking to data scenarios.
Intermediate	Speaks and writes in the language of data. Understands the universe of data analysis, including where data is sourced from, how it's used, and useful analytical methods to derive insights from data.
Advanced	Has a background in business intelligence and data analysis. Understands the technology powering advanced data methodologies. Looked at by peers as subject matter experts on anything related to data literacy. Highly adept at contextualizing data uses and any outcomes that may result.
Expert	Data stewards of an organization leading the architecting of advanced data systems. Evangelizes the use of data internally and can easily translate the value of data processes and insights to non-fluent colleagues. Familiar with, if not implementing, the use of advanced data techniques including machine learning. Fluent in value, information, and analytics across multiple business domains, industries, and ecosystems.

The language learning analogy provides a useful framework for proficiency levels in data literacy. In the early stages of learning a new language, we can often understand more than we can express on our own. As we develop your skills, however, we can operate in a wider range of contexts. And once we become fluent, we can easily explain complex concepts to others.

Don't expect or require every employee to reach the advanced levels of data fluency if not needed for their role. Emphasize the novice and intermediate levels so that teams can confidently work towards the same business outcomes built on data.



3

Build a more data-savvy
workforce step-by-step

After assessing the data literacy of your organization, you'll have a sense of your employees' current proficiency levels and needs. Your next task is to plot the course for improving their data skills.

Follow and build upon this three-step blueprint to ensure everyone speaks the same data language, launch a successful data literacy training program, and create a company culture that thrives with data.

1 Identify a common data language

There's a significant divide between those who understand data and those who don't. As we covered when examining proficiency levels, learning to speak data is similar to learning any language. Companies should identify and establish a common language around data so that employees can confidently read, analyze, manage, and communicate data alongside their colleagues.

To build your organization's common data language, start with the basics — vocabulary. [Gartner recommends](#) building your company's unique data languages based on three elements: value, information, and analytics (VIA). Consult with your internal subject matter experts to align on basic vocabulary and definitions as it relates to the following VIA elements.

Value refers to the business outcomes that result from the questions, metrics, and decisions made because of data. Identify terms of value by naming hopeful outcomes. For example, a retailer might see value in data by monitoring its warehouses' shipping speed to understand where efficiencies are needed to avoid delivery delays and grow a loyal customer base.

Information refers to data sources, quality, data types, management methods. You want to ensure your company is speaking the same about data types and sources. This might include location, search, survey, or image data, among countless other types of data.

Analytics refers to the analytical methods applied to data. This includes diagnostic data, predictive analytics, business intelligence, machine learning, natural language processing, among countless other methodologies.



Data applications in industry

Manufacturing analytics is one real-world example of how companies not traditionally considered “tech companies” use data. More than just collecting and displaying data in a dashboard, the manufacturing industry uses data to detect issues with manufacturing processes and equipment. These insights reduce costs and risk while maximizing efficiency at every stage of the supply chain. Everyone from CEOs to shop floor workers can access these insights to optimize products, manage defect density levels, and analyze customer feedback and purchasing trends.

2 Build and launch your data training programs

Once you've assessed proficiency levels and created your data language framework, you're ready to plan the training program to teach data skills. Work with leaders of core business groups to identify the skills that the workforce needs to meet business goals. Create additional skills focuses as needed for certain teams or special project members.

Data skeptics in your organization may be hesitant to devote so much of their work hours to these training programs. Companies can placate any employee uncertainties of mandatory training programs by contextualizing how and why employees will use their data skills. "The skills (statistics, lookups, error checking, etc.) can quickly become off-putting," write Josh Bersin and Marc Zao-Sanders in *Harvard Business Review*. "But the main benefits can be appreciated by everyone: better judgment and decision-making, and increased confidence when making those decisions."

Roll out your data development programs in small increments. Try a pilot with a small group or focus the program first on one specific set of skills. These small steps will make it easier to adapt to feedback and iterate as needed.

Critical elements of a successful competency program

Here's a quick overview of the key points to keep in mind when building your competency program. Keep the following key points in mind when building your data competency program.



Business objectives

Establish how data literacy training ladders into long-term organizational goals



Participant goals

Define what motivates participants to actively engage in the program— is it a certificate of completion, career growth opportunities, or something else?



Skills mapping and assessments

Consider how to tailor your program to your employees' range of data proficiency levels. Those already fluent in data will have very different upskilling needs than employees building conversational data literacy.



Personalized learning paths

Create standardized learning paths for each proficiency level. Supplement courses with other learning opportunities such as articles, podcasts, and videos from internal experts.



Blended and social learning

Tap into the power of learning from peers by complementing solo learning with group (virtual or in-person) learning sessions. Offer various ways to engage with colleagues like lunch-and-learns, online social forums, and case study discussions.



Mentorship

Use mentorship programs built for learners in each proficiency level to help them stay accountable to their goals.



Success metrics

Decide which metrics will define your data development program's success, e.g., employee engagement, course consumption, long-term employee retention, or increased revenue from smarter business decisions.

Explore competency programs in more detail in [Train Up Your Team with a Skills Academy](#).

3 Bring data into (almost) every conversation

When learning a language, it's not enough to memorize new vocabulary or grammar rules. You have to speak the language regularly to maintain fluency.

It's the same with data. Companies must build a data culture that makes data a part of everyday conversations. Create the expectation that employees should come to team meetings, working sessions, and presentations ready to speak data.

The following three sentences are examples of data culture.

Executives can set this example by discussing data trends and insights at all-hands meetings. Managers can do the same at the team level by highlighting how they used data to make decisions on projects. And colleagues should get comfortable asking each other to reference relevant data when proposing new projects.

Encourage curiosity and a growth mindset. If someone doesn't know how to get a particular data point or interpret what they're seeing, connect them with a person or resource that can help.

Be prepared to deal with some challenging insights that come from data. It won't always paint a rosy picture, and that's okay. Create a culture where employees feel safe sharing the data rather than afraid to speak up. "Confront the brutal facts of the negative data and learn from it. If punishment is the first reaction, then people will try to hide the data or manipulate it," says [Cindi Howson](#), Chief Data Strategy Officer at ThoughtSpot.

Keep in mind that this step is never really complete. Your goal is to integrate data into everyday conversations and activities across your organization. This only happens when you make it a priority and a part of your company culture.

3 ways to bring data into workplace conversations (without sounding awkward)

Udemy instructor [Jose Portilla](#) notes that there are three key ways to get data literacy into workplace conversations. To illustrate these techniques, he uses an example of the movie ticket seller Fandango:

Think of the question you're trying to answer. In Fandango's case, is there a conflict of interest for a website that both sells movie tickets and displays review ratings?

Visualize the data. This can help you see trends and potential problems. Jose mapped Fandango's "true ratings" against the ratings they displayed on their website. He also mapped ratings from another website, Rotten Tomatoes, against Fandango's ratings to see the variation.

Draw insights from the data. What story is it telling? Compared with data from other websites, Fandango's movie reviews are substantially more positive, which is a good indicator that there's a conflict of interest.

Unleash the potential of your data with a trusted partner

Ignore the data literacy imperative and prepare your company to lose ground to competitors. Just look at the trajectory of computer literacy and digital transformation. What started as advanced skills have become table stakes. With data literacy, we're at another inflection point.

Companies that act quickly to build data knowledge across the workforce will rise to the top and outperform the competition. [Data-driven companies see increased performance](#), resulting in a 3-5 percent higher total enterprise value than those without a deliberate data culture.

Discover the steps you can take today to keep your workforce competitive in the data revolution. [**Get in touch to build an action plan**](#) for making all your employees data literate.

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