onebridge

Keys to Building Data Literacy

The First Step to Getting Value Out of Your Data

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You've likely heard many times that data is the key to future-proofing your business, and the evidence is pretty compelling. Every day, new stories of improved profit margins, heightened efficiency, and boosted marketing efforts appear, celebrating data as the primary enabler to success.

It's common to hear that data is the key to allowing any company to better solve customer needs, improve their services and operations, and make better decisions – but it isn't. The only sure way to benefit from today's golden age of data is through improved data literacy: the ability to interpret and make sense of data.

What Is Data Literacy?

Gartner defines data literacy as "the ability to read, write, and communicate data in context, including an understanding of data sources and constructs, analytics methods and techniques applied – and the ability to describe the use case, application, and resulting value." It can also refer to the ability to derive meaningful information from data and apply that information in ways that benefit your business. Data literacy is information as a second language. True data literacy begins when most of your employees have data at their fingertips and know what to do with it.

There are many specific skills involved. A few examples include:

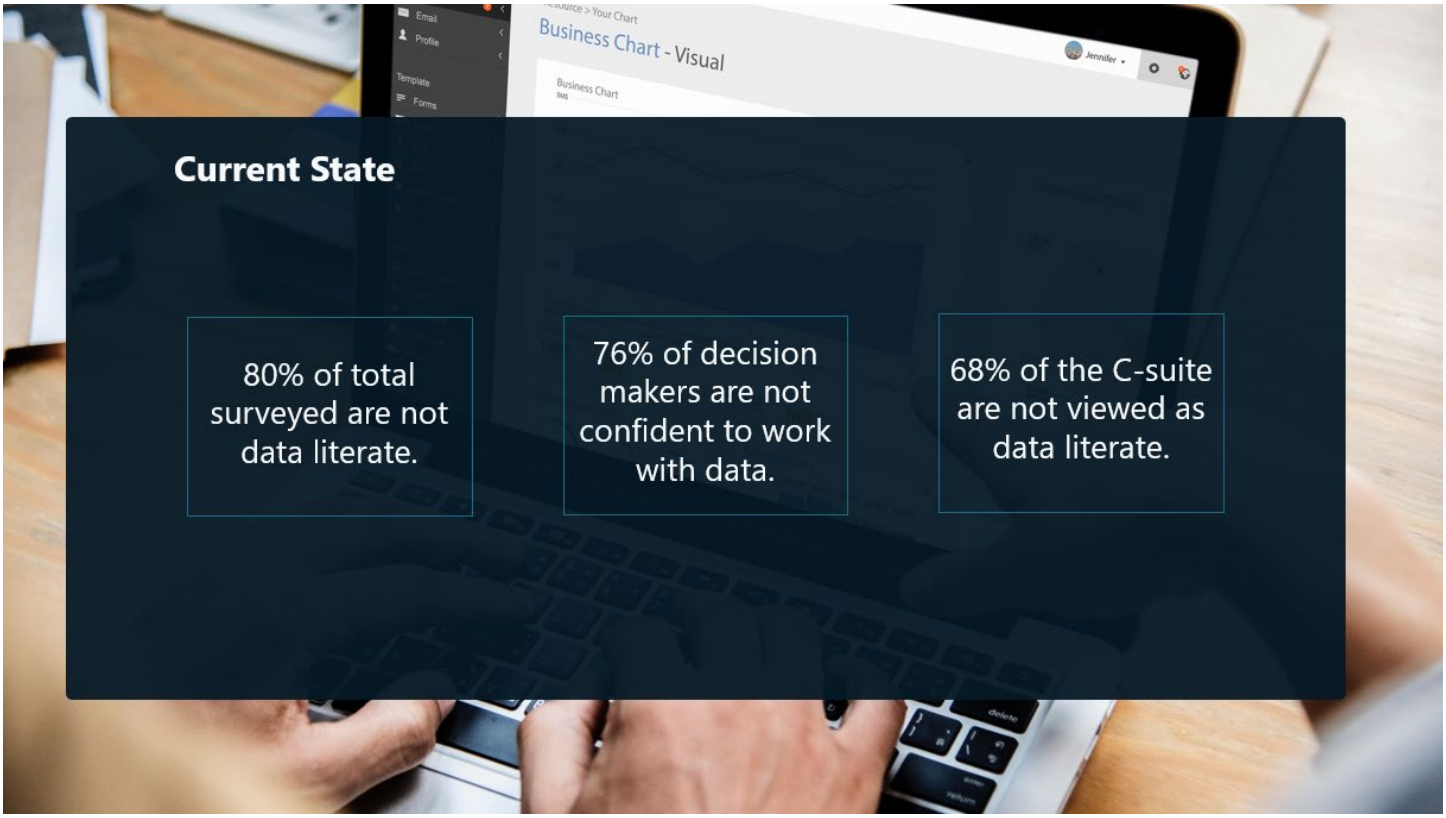
- Knowing which questions to ask
- Identifying the relevant data and testing its validity
- Interpreting that data so results are useful and meaningful
- Creating visualizations that are easy for leadership to understand and explore

Understanding where the data came from and how it was collected, analyzed, and visualized are all essential elements of data literacy. Users need the skills of:

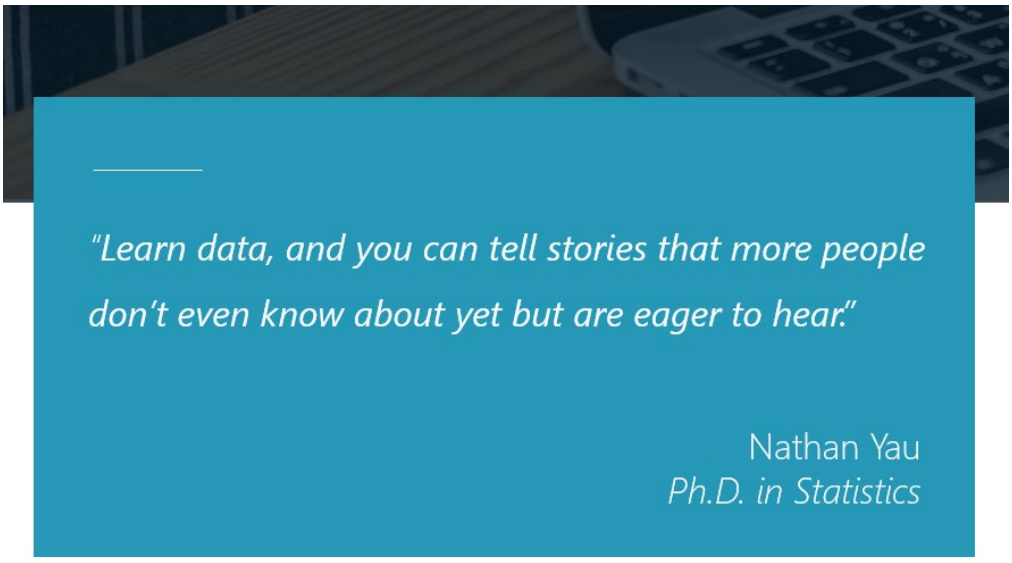
1. Creating a meaningful narrative using data visualizations and interpretation
2. Cleaning and preparing data for analysis
3. Understanding the data well enough to examine results critically and search for proof of accuracy

These basic data skills can be incredibly empowering to employees, creating greater confidence in decision making and allowing them to take a more active role in conversations about data and overall business intelligence. Companies with a data literate workforce are the ones seeing higher productivity and greater innovation as a result of data.

Unfortunately, today most companies are not taking advantage of the opportunity. In a 2018 global survey of 11,621 businesses by Censuswide, 80% of those surveyed were not data literate. Furthermore, 76% of decision-makers were not confident to work with data and 68% of the C-suite were not viewed as data literate.



Defining Data Literacy for Yourself

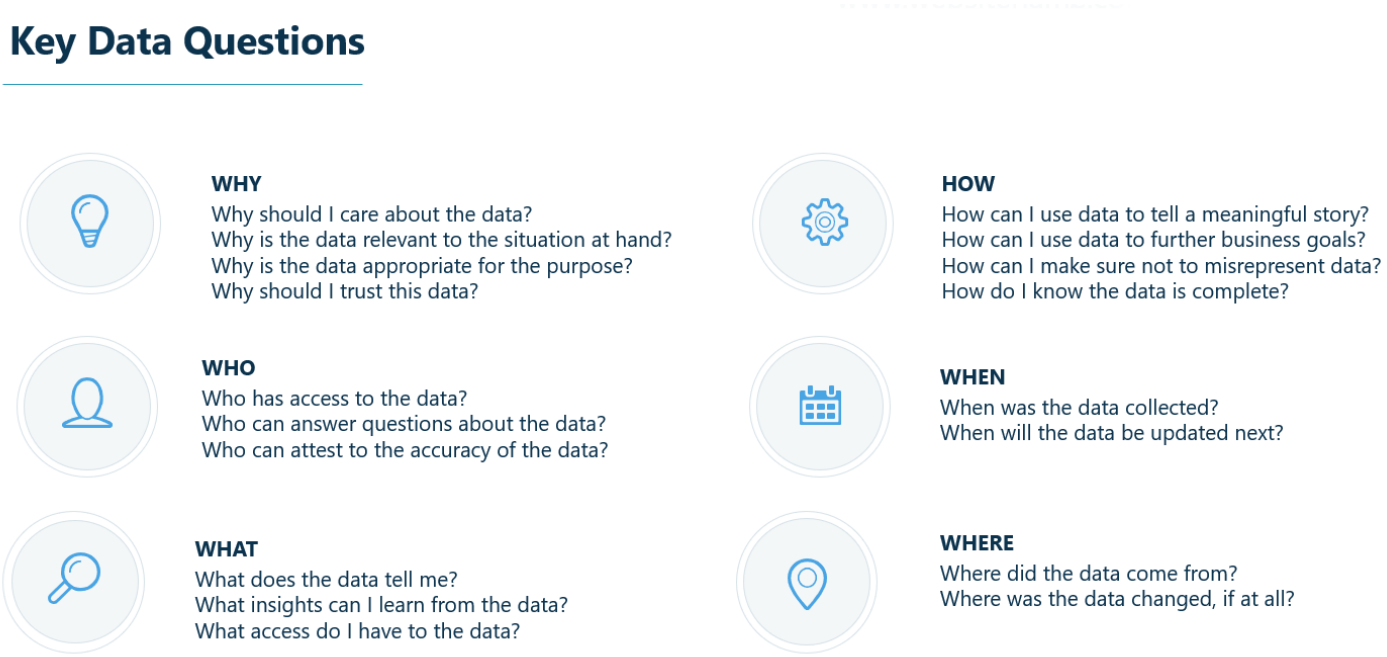


Data literacy means something different for each role. A data scientist needs to have considerably more data fluency than a manager. Different data literacy skills needed include:

Data users typically fall into four categories: Data Believer, Data User, Data Scientist, and Data Leader. It will be important to establish which category each user falls into.

Data Believer	Data User	Data Scientist	Data Leader
• Needs to understand data to make business decisions • Significant business knowledge • May have limited analytical skills	• Uses/needs data in daily life • Needs an understanding of data and how to engage with it • Needs basic analytical skillset	• Uses data to prove/ dispute hypothesis • Significant analytical skills • Uses statistical methods • May have limited business skills or knowledge	• Leads data-driven initiatives • Good data understanding • Comfortable with analytical methodologies • Understands business perspective

When determining roles and requirements for data use in your organization, there are important key questions to answer before embarking on a data literacy campaign:



Making the Case for Improving Data Literacy

Many organizations are scrambling to keep up with advancements in data collection and analysis thanks to the frequent addition of new and unstructured data sources. They already have a lot on their plates when it comes to data analytics and business intelligence. How and why should we add yet another priority?

We'll start with why: because data literacy makes the difference between successful and unsuccessful data and BI strategies. Every organization must come to realize that their data is useless unless their workforce is able to quickly make sense of it. The faster an organization comes to this realization, the better. That's because the inability to use data in decision making or to identify new opportunities renders investment in analytics tools or frameworks useless.

Now that it's easier to work with data, the softer skills of data-driven problem-solving are becoming more critical. A solid understanding of data security, privacy, trust, and governance are equally as important as platform training. People who know how to ask the right questions and discover insights are especially valuable among companies that have become disillusioned with the lack of value they've gotten from their data.

The ability to question algorithmic outputs and determine whether to trust a system decision becomes very valuable given the rise of automation and AI. Basic training in data science reveals that not all numbers are created equal, and some can be more difficult to understand than expected due to context. It's important for data workers to understand the calculations and underlying factors behind the data, like accuracy, quality, possible bias, etc. Understanding where the data came from and how it was collected, analyzed, and visualized are all critical for a proper interpretation and analysis.

Greater data literacy allows data workers with deep departmental expertise to apply that unique lens to the data, adding an additional perspective to verify and analyze it. When more workers are available to interpret the data and apply it to their daily work, the danger of inaccurate interpretation is reduced.

Data literate teams experience improved collaboration because they can speak the same 'data language' as technical experts. Understanding the tools and resources available as well as the difficulty level of the request makes it easier to align expectations between the person requesting data work and the person executing the work. The amount of discussion needed to clarify the request goes down while speed and quality of fulfillment go up. Clearer communication results in greater productivity.

Perhaps most important of all, if your workforce is data literate, your data analytics or IT team can shift their focus from simple but time-consuming requests to further empowering the organization to do more advanced and increasingly valuable data work.

Six Common Roadblocks to Data Literacy

1. Data Skills Are limited to One Centralized, Dedicated Data Team.

This is the most common mistake companies are making. This can be a problem for data scientists because it becomes difficult for them to explain their findings to colleagues who don't understand the data language they are speaking. Lack of data skills can also frustrate business stakeholders because crossed communication can slow down request fulfillment.

Without a basic understanding of data, the quality of the collaboration among colleagues goes down and the amount of back-and-forth needed to complete the request goes up. When a requester has no idea how difficult their query is to fulfill, there can be a mismatch in expectations.

2. Your Centralized Data Team has Limited Insight into Departmental Functions and Goals.

With data coming in from new types of sources and devices, more departments across the organization are taking advantage of the insights offered. In the past, data analytics was a focus primarily for functions like HR and finance, but now marketing and public relations can benefit, too.

These newcomers may have unique demands when it comes to their data. They may need to incorporate new kinds of unstructured data. Often, they have difficulty clearly articulating their data needs.

Overcoming these challenges requires your data team to gain more insight into the goals, strategies, and even typical behaviors of each department they serve.

3. Reliable, Trustworthy Data Exists but is Difficult to Find.

Lack of a coherent, accessible structure for data is a common problem in organizations. New opportunities to collect data through modern channels and devices have made it harder to govern and manage data. It's common for employees to have trouble finding the information they need.

4. Leadership Focuses on Managing Talent, Capital, and Brand, but Not Data.

Data isn't just for the experts anymore. To mature an organization's data literacy, leadership at all levels must start getting involved with how data is shared and used across the organization – which requires the development of new data skills. It's important for these leaders to regularly communicate about their data-related success stories.

5. High Investment in Technology but Low Investment in Data Skills and Understanding.

It's easy to get caught in the trap of thinking that a new tool or more advanced technology will be the magic bullet to solve all your data challenges, but the truth is that technology isn't the magical cure-all many organizations hope for.

To get value from any new tool or technology, you need to form a clear line of sight between the capabilities of the technology and the problems your organization seeks to solve. How it integrates (or doesn't) with the other tools you currently have, and how to roll it out and encourage adoption are all important factors. However, the most critical element is building a user base with foundational data literacy skills who can get the most from the investment made in these tools.

6. Lacking the Right Tools and Technology for Your Data Needs.

Many employees find that information from corporate sources isn't in a format usable or understandable to them. Having the right tools can overcome this roadblock, especially when it comes to creating, interpreting, and sharing data displays.

Successful companies avoid this roadblock by improving information filtering and visualizations. Putting a common platform in place for viewing, analyzing, and sharing data provides a single source of truth,

ensuring that everyone has access to the latest data. A common platform also makes it much easier to enforce policies around security and governance.

Data Democratization Can Help You Overcome the Roadblocks

Data democratization is the first step toward data literacy. It sets the stage for your IT or data analytics-dedicated departments to spend their time enabling the use of data across the organization so each employee can take responsibility for their own data work and get it done faster without an intermediary. This is a huge booster for productivity and the finding of valuable insights and new opportunities through data.

Here are some steps you can begin taking today toward greater data democratization and literacy in your organization.

5 Steps to Greater Organizational Data Literacy through Data Democratization

1. Conduct an Audit to Understand What Data and Technologies Exist and How They're Being Used.

This allows you to set a benchmark for current data use so you can begin measuring improvements going forward.

Begin to uncover the questions departments would like to use their data to answer and look for mismatches between expectations and what's currently available. What insights can your current data yield? Do the gaps lie in data quality? Data skills? Technology and tools? Use this information to map out who needs access to what.

2. Offer More Widespread Access to Data and Tools.

Make sure everyone knows how to access the data relevant to their function and daily work. When only a narrow group of employees have access, they have to divert their attention away from higher priority projects that require their in-depth expertise to fulfill small but time-consuming requests from those without access.

3. Set Up a Learning Strategy for Data Skills to Empower Teams to Access and Understand Their Data.

Rather than going for a one-size-fits-all approach, begin by carefully choosing the data skills your

workforce needs to achieve their goals and create the learning framework from there. Look at the skills workers would need to be able to collect, analyze, and display information for decision-making that supports business priorities.

Start with small data projects to exercise their skills. Allow people to apply what they learn to real problems as they go through the training, allowing time between projects to assess performance and look for opportunities to improve. The probability of success with these small projects will be higher and thus more motivating for learners, and they won't have to deal with the politics, inflated budgets, or disparate agendas that can sometimes complicate large projects.

Encourage proficient users to mentor novices. Ongoing coaching may be more effective for your organization than workshops. If learning strategies you've tried in the past haven't worked for your organization, research other ideas and look for ways to innovate the process and get learners more engaged.

Help learners see the benefit of acquiring these skills by recognizing high achievers and reinforcing that data analytics experience is powerful for career advancement. And of course, regularly assess the effectiveness of the learning program to find ways to improve it and keep an eye toward ensuring that training is equipping employees to support changing business priorities.

4. Start Building Data Awareness by Sharing Success Stories.

Whenever the organization uses data to change its strategy or take advantage of an opportunity, share that story with the whole enterprise. When you present the stories, focus on the career benefits of improved data skills, and work with HR to encourage the recruitment of data-driven and data literate employees.

5. Set an Expectation that Data be Considered in Every Decision Made.

Greater data access forces managers to pay attention to the information now at their fingertips. But this is about more than just access, it's about thinking critically to assess the validity of the data being used and its context to ensure that the right decisions are made. Once equipped through the learning program, managers should begin asking questions of their data and interpreting it more deeply.

An organization can be considered data literate when most of its employees:

- Have access to data that is directly relevant to their daily work
- Understand how to use critical thinking and data science to interpret the data
- Are trained to use a central platform for managing, visualizing, and sharing data
- Feel confident applying data skills to every significant decision they make

Data Literacy Action Plan

The key steps on the road to organizational literacy are:

- Planning
- Assessment
- Education
- Measurement
- Reinforcement

Planning

During the planning stage, you need to establish a vision for where you want to end up – what will data literacy look like for your organization and for each role? You'll also need to establish sponsorship or "data role models" and define how they will help drive the change.

Establishing funding is also an important step. What resources will be allocated and how will you maintain the priority?

Who in executive leadership will help you lead the change? What will be required of them to maintain the vision and overcome resistance?

Finally, establishing communications with your audience to share results and expectations is important, as well.

Establish Vision:

- What does literacy look like?
- What does it mean to each role?

Establish Sponsorship:

- Who will drive the change?
- Are they data role models?
- How dedicated are they to the initiative?

Establish Funding:

- What resources are allocated to the initiative?
- What will ensure that it remains a priority?

Establish Leadership:

- Who will lead the change?
- Do they behave according to the vision?
- How will they overcome resistance?

Establish Communications:

- Who is the audience?
- What is the message?
- How will you make the message real to the audience?

Assessment

Taking an assessment of your audience's current state with regards to data literacy is important for establishing a baseline and pinpointing areas of greatest opportunity. Here is a list of questions common with an assessment of this type:

Type	Considerations
Personal	Do you consider data when making decisions? Do you ask to see the data? How data fluent are you?
Data Culture	How does data provide value to your organization? What cultural factors help or hinder that value creation? What ethics/values does your organization have regarding data?
Organizational Readiness	What are people's attitudes towards data? How receptive to change is your organization? Does your organization reward people for using data?
Skills	What skills are needed for each role? Do the people in the roles have those skills? What additional skills are required?
Technology	Does the existing technology support the business needs? Is the technology appropriate for the users?

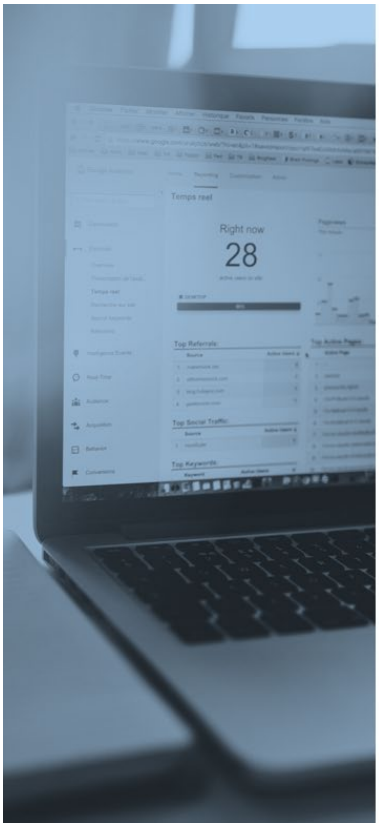
Education

Data literacy education is pivotal, and no organization can afford to skip it. The goal should be to foster understanding, confidence, and willingness to embrace a new data-rich culture.

Foster understanding with skills workshops using real-world data and examples that help bring the message home to the learner.

Spark confidence by providing the opportunity for ongoing practice. Make sure they have access to continuous learning support within their area.

Inspire a willingness and excitement to participate in the new data-focused culture by making expectations clear and aligning rewards with those expectations. Ensure the culture supports the day-to-day use of these new skills.



Literacy Education Goals

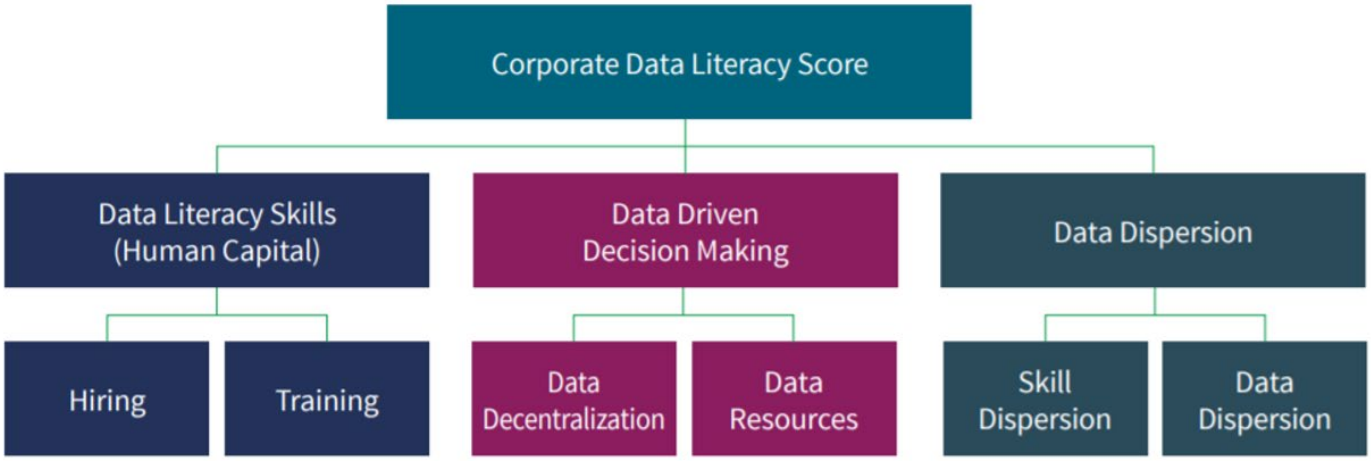
Adult learners are more motivated when they see the applicability of what they are learning to themselves. Make the learning targeted and relevant to have the most impact.

Employees are more likely to want to learn when they can see how it will benefit their work, so always include real-world scenarios in your education planning. Module-based, project-based, hands-on, and one-on-one mentoring should all be available to employees to accommodate differing learning styles.

Measurement

As Peter Drucker, the business management whiz, has said: "If you can't measure it, you can't improve it. You should be assessing your organization's data literacy on an ongoing basis across the organization starting from day one and continuing indefinitely.

Your corporate "data literacy score" should be based on a variety of factors in the three major areas of Human Capital, Data-Driven Decision Making, and Data Dispersion.



Source: IHS Markit

Reinforcement

Data literacy reinforcement is all about making it easier to do things with data and harder to do things without data.

Reinforce your organization's new skills by:

- Making high quality data readily accessible
- Establishing data literacy criteria for new hires
- Continuously ask questions:
  - Is data being used to support positions?
  - Is there an increase in the use of data applications?
  - Are people asking better questions, fueled by data?
- Challenge positions and ask for data throughout projects
- Include data use in performance monitoring

Want to Learn More About Boosting Your Organization's Data Literacy?

Onebridge is a business intelligence and data consulting firm serving some of the largest government, manufacturing, healthcare, and financial services entities in the U.S. for over 14 years. We would love to meet or schedule an intro call to learn more about your organization and talk about our services. Contact us here or give us a call.

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