

# The Seven Principles of Data Literacy

A Blueprint to accelerate your business toward its data-driven future

Find out how ▶

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 Data  
Literacy  
Project

 Qlik Q



# Foreword from Qlik

The ability to read, analyze, work and communicate with data - known as data literacy - is now so critical to companies that it has been hailed as the second language of business by [Gartner](#). The global pandemic highlighted its importance, with many companies starting to rely on data to detect new patterns, respond to changing customer behavior and make first-of-a-kind decisions in a new environment of many unknown factors.

The next few years promise to see the acceleration of data literacy education and training within the most forward-looking organizations. Qlik's recent report developed in collaboration with the [Data Literacy Project](#) and The Future Laboratory, [Data Literacy: The Upskilling Evolution](#), shows that data literacy is set to be the most in-demand skill by 2030, with 85% of executives believing these skills will be as vital in the future as the ability to use a computer is today.

However, many organizations struggle with creating and encouraging a data-literate workforce. How do you move from a traditional approach that relies on preconfigured, historical and often siloed data, to one which uses data in real time, driving in-the-moment insights, smarter decisions and action?

It starts by discovering the current levels of data literacy in your organization. Right now, business leaders greatly overestimate this. [Over half of company leaders \(55%\) see their workforce as confident](#)

[in data literacy skills. In reality, just 11% of employees say they are fully confident in this area.](#) Only by understanding the abilities and needs of your workforce can you start to support them in becoming data literate and increase the value of their contribution - for the good of your company, customers and individuals' careers.

You'll see from the principles in this blueprint, drawn from insights from the [Data Literacy: The Upskilling Evolution](#) study, and compiled with Accenture and Qlik's collective expertise, that the process of fostering data literacy is not about using the latest technology or training a handful of individuals to become data scientists or "experts." It is far more systemic than that and involves establishing a culture of curiosity, collective problem solving, consistent questioning and testing of insights as central to every business decision.

Through this blueprint we aim to provide clear, actionable and achievable advice to help organizations become data-driven so they can be confident that the right decisions are being made for their business, in the right moment, with the greatest degree of certainty.

**Dr. Paul Barth,**  
**Global Head of Data Literacy at Qlik**

# Foreword from Accenture

Today, [1.7MB of data](#) is created every second for every person on earth. It's overwhelming and most organizations simply don't know what to do with this deluge of information. Whilst many collect and store it, few are able to truly reap the rewards from it. For many, that comes down to empowering their workforce to have the confidence to use data effectively.

But there isn't a quick fix, and it certainly shouldn't be treated as such. This is about behavior change, and that takes time, as data literacy requires more than just skills that you can teach through training. It also requires a mindset shift both at an individual and business level – where people actively and instinctively analyze and question the data that's in front of them.

For commercial, cultural and reputational reasons, data literacy can become an essential skill in your company, not just a “nice to have.” Similar to the introduction of computing and cloud, data literacy will likely improve productivity and create greater business value. We recommend building on success gradually and organically, rather than a Big Bang approach, where the outcome is always known at the start.

Aiming for perfection is not the answer here. Instead, consider where you can create a difference early on and use smaller, initial projects as a launchpad to start to grow and nurture a data-literate culture.

Data literacy is one of the greatest competitive edges you can give your entire organization. We hope that this blueprint, with its seven principles for data literacy success, can give you the confidence to take the first steps to upskill your workforce now and get started on your journey today.

**David Miller,  
European and UK Augmented Insights Lead at Accenture –  
Applied Intelligence Delivery**



# Owning the data literacy evolution

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The benefits of improving data literacy throughout your organization are both short-term and long-term. The first changes you may see relate to employee satisfaction and retention. It's clear that companies that upskill their teams with data and analytics skills are meeting an important need and are likely to retain their talent longer.

**35%** of employees surveyed in the Data Literacy: The Upskilling Evolution study, had changed jobs in the last 12 months alone because their employer wasn't offering enough upskilling and training opportunities.

Alongside the advantages for individual career paths, there are bigger picture, systems-based benefits that can support your organization's culture, revenue generation and market competitiveness. It comes back to the fact that data literacy is about better decision-making. A single data insight leading to innovation or efficiency has the power to change the trajectory of an entire company, or even an entire industry.

Businesses that prioritize the prediction, analysis and application of insights sit at the cutting edge of their market. A [McKinsey analysis](#) found that companies where employees consistently use data in their decisions are one-and-a-half times more likely to report revenue growth of more than 10%.

The [Data Literacy: The Upskilling Evolution](#) report found that 59% of employees want their employers to offer training to improve their data literacy and 45% of employees are anxious that their employer isn't taking responsibility for nurturing the skills needed to succeed in this future workplace. Organizations should take advantage of this appetite and consider data literacy an imperative for the development of current and future workforces for two key reasons:

- 1.** A data literate organization is a more agile, prepared, and innovative organization.
- 2.** It's what employees want, and they may leave the business if their expectations around training and support for future workplace skills are not met.

# The Data Literacy Principles vital for your organization

Every one of your employees, from sales team members to executives, should feel empowered by data to drive decisions to help your organization become truly data driven. But getting there requires a clear strategy, a pragmatic roadmap and executive buy-in.

The journey isn't linear. It may weave, pause and change direction – like all journeys do. But we have identified seven principles to guide your journey. These principles don't have to be followed in a specific order, and there is no right or wrong start to the journey or set route to take. But factoring in all seven principles can take you on the path to data literacy success.



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**Most people correctly interpret the term skill as something specific you learn. But just because a skill has been learned does not mean it can be applied properly. In contrast, competencies are a broad set of knowledge, skills, and mindsets – being competent combines the acquisition of a skill with the mindset and behaviors to successfully execute it.**

**Kevin Hanegan,**

Chief Learning Officer at Qlik and Chair of the Data Literacy Project Advisory Board

# Principle 1: Foster a culture of humility and curiosity

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Data literacy is not all about data. Yes, you need to analyze and work with the data at your disposal, but it also involves developing non-technical skills like curiosity, critical thinking, creativity, and collaboration to gain different perspectives and challenge your own assumptions about the data.

When a company embraces data literacy it is embracing a culture of curiosity and intellectual humility, where decisions are not always made by the most senior person in the room or based on a “hunch,” but by a collective exploration of the facts and figures. To be fully data literate, everyone within an organization must take a more scientific outlook, where data is used to challenge and even disprove a hypothesis, rather than retrofitting figures to back up an existing train of thought.

Confirmation bias is a common human approach to interpreting data – when we are unsure of the answers, we look for trends and patterns we are already familiar with. It is only by being humble and challenging our assumptions about our organization, data, teams, customers and industry, that we can break away from these assumptions.

Cultural change of this kind often meets resistance initially, especially when it's unclear where the new, more analytical and skeptical view of the numbers might lead. It's not always easy to convince people that are used to doing jobs in a certain way to become intellectually humble. But it is possible. Take the example of most of the world's workforce doing their jobs from home during the Covid-19 pandemic. Many people were used to working in an office as the standard way of doing things. The disruption was challenging in the short-term, but it led to more efficient, supportive and flexible working arrangements as companies "unlearned" their protocols and adapted quickly to the new reality.

Creating a culture that supports employees to be curious, skeptical, interested in and supportive of data does not happen overnight. It's a process. Give yourself and your employees time to go on that journey together and watch how peoples' behaviors and attitudes to using data change over the next 3 months, 6 months, a year and beyond.

**Relevant Resources:**

[Developing forever skills in the era of information overload](#)

[Seeking New Leadership: Responsible leadership for a sustainable and equitable world](#)

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**Whilst it's important to make clear that data literacy is for everyone, the levels and skills needed will be different across job roles and functions. Of course, a data architect will need different skills to someone who is a consumer of data. But the core principles they all require of inquisitiveness, curiosity and the ability to challenge data remain the same.”**

**David Miller,**

European and UK Augmented Insights Lead,  
Accenture – Applied Intelligence Delivery



## Principle 2: Encourage employees to put training into practice

Training courses are important for boosting data literacy, but investment in skills development need not be as significant as you might anticipate – both in terms of cost and time. Virtual training, online courses, alongside in-person instructor-led curriculums can be combined to lower overall investment. But no matter the method of delivery, you need to ensure that any training is relevant to the organization – not just in terms of the theories covered, but what they mean for employees within their roles and for their career progression.

Although online courses allow for individual, self-paced learning, creating a shared experience for a group of employees is very powerful and often the most effective way to integrate learnings. For example, a weekly cadence of brief online and live sessions can create a community of learners who share insights and encourage each other. Make time at the end of training for participants to practice their skills of data storytelling by presenting a business insight using their new skills. Discussions that demonstrate how easy it is to apply their skills can create a foundation for data-driven dialogues that will likely be common in your data-literate culture.



To really drive data literacy, employees can be empowered to consistently put their training into action and use their skills on a daily basis, no matter their level or role. This ensures that the training does not become a tick-box exercise, quickly forgotten and only theoretically useful. Currently, [only just over one quarter \(27%\) of employees say they have had formal data literacy training with hands-on exercises.](#)

Think of the example of a flight simulator, where pilots train and practice. In most businesses, existing data, applications, and tools exist that can be used to provide a “business simulator” during data literacy training. In some cases, analytical tools include guided analytics and AI bots that provide real-time support to employees learning data literacy skills.

Alongside this, encourage employees to become more data literate in their personal lives. For instance, they may have personal goals to reduce their home energy consumption, improve their fitness, or track their finances as part of managing their budget. Through seeing the parallels of the value of analyzing and understanding data and finding insights in all contexts they will start to look for opportunities to apply the same principles and skills within their roles.

But, employees both have varied training requirements and, often, limited time to engage with initiatives outside the day job – so how can businesses get tangible data literacy initiatives off the ground?



“**The creation of “sandbox” environments, where you get very close to the true experience of a role or environment can help provide employees with the confidence and context to apply their academic learning to their work.**

**Edward Coe,**

Augmented Insights Manager, Accenture Applied Intelligence

# Seven questions to prompt a data-literate culture

1.

## DO EMPLOYEES UNDERSTAND HOW DATA LITERACY WILL POSSIBLY BENEFIT THEM IN THEIR DAY-TO-DAY ROLES?

It's not just about "selling" the business case to secure employee engagement.

2.

## WHO ARE YOUR DATA CHAMPIONS?

These individuals will likely champion the benefits to others within their team.

3.

## HOW CAN YOU MOVE THE TRAINING EXPERIENCE CLOSER TO REAL LIFE?

When the context is clear from the get-go, individuals find ways to apply their learning across their jobs.

4.

## HOW CAN YOU MAKE DATA EXPLORATION ENGAGING?

Gamifying the process or running competitions can encourage cross-team sharing and learning opportunities. Consider incentivizing the workforce and reward people for using data in their insights.

5.

## HOW MUCH CONTROL DO YOUR TEAMS HAVE OVER THEIR LEARNING?

Empower your workforce to explore more opportunities for self-directed learning, by completing on-demand courses that work on their schedule.

6.

## CAN YOU OFFER CONSISTENT SUPPORT AND LEARNING?

A journey to greater data literacy is a long-game so keep everyone motivated and supported so they know this is an embedded approach, not a quick fix.

7.

## DO YOUR PEOPLE HAVE THE TIME TO LEARN THIS SKILL?

Behavioral change and learning new skills takes time out of people's days, so you need to give them that headspace and ability to focus on data literacy activities, rather than imagining this can miraculously happen on top of a busy workload.

### Relevant Resources:

[Qlik's Continuous Classroom](#)

[The Human Impact of Data Literacy](#)

# Principle 3: Bring everyone on the journey

Ideally, every single employee, from the intern to the CEO, could be empowered to use data to make the best decisions. The appetite is strong – according to Qlik’s latest global study, 59% of employees globally say they want to become more data literate.

But there is a misperception that you need a doctorate to be data literate or to simply work with data. In fact, anyone with the right skills and mindset, as we’ve discussed in the first two principles, can do it and likely are already using and developing their data literacy without realizing it. A culture that is both intellectually humble and consistently curious is one where data literacy can thrive. Working with data does not have to be intimidating. Keep it simple, highlighting that everyone already works with data in all aspects of their lives.

To help your employees build their skills, communicate the benefits of data literacy widely and celebrate progress so the entire organization is aware of successes, case studies, projects and training happening to raise data literacy levels. This approach, combined with access to the right tools and technology, will likely see everyone in the organization increase their data literacy levels.

#### Relevant Resources:

[Data Literacy Assessment](#)

[Data is the new Capital](#)

[Establishing a competency-based approach to Data Literacy](#)

## Five ways to demonstrate data literacy is for everyone

1.

### MAKE SURE EVERYONE KNOWS THE BENEFITS FOR TRAINING IN DATA LITERACY.

Your workforce needs to understand what they can expect to gain from the program. Showcase how data can be applied to specific business problems, industry segments, technology stacks and other elements of your company. This can help employees understand why it’s important and how to implement their learning.

2.

### ADOPT A ROLE-BASED COMPETENCY FRAMEWORK, HIGHLIGHTING THE SKILLS AND MINDSETS FOR EACH.

Present case studies of how each of those roles will likely benefit from data literacy.

3.

### GAUGE WHETHER AN EMPLOYEE IS A ‘DATA NOVICE’

who needs to learn the basics of data storytelling, or whether they can fast track to analytics courses on data-informed decision-making, for example. [The Data Literacy Project](#) provides a free assessment for this.

4.

### TAILOR LEARNING TO PEOPLE’S AGENDAS.

Offer sessions and resources that support all learning styles, from in-person lessons to on-demand modules. This can enable everyone to choose according to their learning style and schedule.

5.

### ONCE EMPLOYEES HAVE TAKEN STEPS TO BECOME DATA LITERATE, GIVE THEM THE OPPORTUNITY TO APPLY THAT KNOWLEDGE.

Outline processes for decision-making that are inclusive and allow all roles to collaborate.



## **Data has been a miracle cure for children's healthcare system, Nemours**

Nemours, a U.S. based non-profit children's healthcare system, held a huge amount of data from electronic health records across the country, but many of its doctors and nurses didn't know what data was available, let alone how to read, analyze or even interpret it. So, they created an educational series called the [Data Swagger Sessions](#).

These bite-sized tutorials aimed to inspire everyone. They showed clinicians how data could be used in everyday work to provide actionable insights and inform better decision making.

Beyond learning about existing applications and data sets, attendees also learned how to use available technology to generate actionable and timely insights at the point of decision making, showing them that being data literate empowered and supported everyone.

Showcasing the power of data to everyone within the organization has led to great success. Data is no longer just used by those with IT or data within their job title, Nemours' doctors and nurses now start every day with a snapshot view of patient-first metrics. Displaying standard metrics around appointments, patient flow, and revenue cycle management helps them better plan ahead, improving the overall patient experience and their ability to deliver the highest level of care.





## Principle 4: Focus on the desired outcomes

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The first step to effectively using data is understanding and being clear on the problem you want to solve.

By understanding the commercial and strategic objectives you have the context to explore, analyze and interrogate the right pools of information to take the business closer to its desired future. Design interactive exercises and support your business with the right tools to help people work through the actions to take and the insights to use for confident decision-making.

For example, you may discover that your sales team is collecting huge amounts of data that isn't being used. This is an opportunity to upskill that team and give them access to easily digestible information so that they can start making the most of the data to drive insights.

Too often, organizations have invested heavily in creating dashboards of multiple threads of historic information that do not give the right insights to the right people. Building a smaller scale bespoke data dashboard with access to real-time insights, may completely transform the possibilities without overwhelming your teams.

**“Individuals can possess all the technical skills needed to leverage data, but if they don't have the ability to understand what the stakeholders really want, they will not produce value. That's why you also need skills such as active listening, inclusion and storytelling with data.”**

**Paul Barth,**  
Global Head of Data Literacy, Qlik

**Relevant Resources:**

[The lost art of questioning](#)



**BT created a team of data explorers to tap into unused data.**



BT Group is a global telecommunications company which operates the largest fixed line broadband service in the UK. In the UK alone, it has 30 million customers. But it discovered that as a company it was only using around 5% of the data it knew about its customers. Leaving it with a huge amount of data which it just wasn't tapping into! To do so, it knew it needed to put data at everyone's fingertips and provide its customer service representatives with a 360-degree view of customer behavior through personalized dashboards.

Understanding that they needed to do more than just put the solutions out there and expect employees to be able to use them, BT invested in upskilling to equip its customer service representatives – and others across the business - not just with the ability to understand the data in front of them, but also to explain the story behind the figures – to become confident data explorers.

By implementing the #GetQualified program BT was able to support colleagues' continuous learning journey, and plan for future data expansion using the Qlik Continuous Classroom, a digital resource for self-paced data literacy skills training. They also created a self-serve insight squad that spoke at internal BT events on the importance of data-driven decision-making, as well as running Qlikathon competitions for analysts. Through these events, they created a community of Qlik champions, whose role it is to encourage further adoption of data in employees' day-to-day roles.

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**Culture defined as feeling or thoughts is not measurable. You have to identify and track the subsequent behaviors that come from those feelings. These are the things that people see in the business – actions as opposed to words.**

**Sam Netherwood,**

Senior Manager, Applied Intelligence at Mudano,  
part of Accenture

## Principle 5: Measure the impact of your efforts

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While you're on the journey to greater data literacy, it can be challenging to establish and prove the ROI as often the real value will not come until the processes and culture have been embedded for a few years, when everyone is thinking and acting differently on a daily basis.

However, to demonstrate the value and ensure continued buy-in from senior stakeholders, tracking employee satisfaction and retention can offer a short-term measurable analytic.

Start by keeping track of levels of engagement in the training through attendance numbers and pulse surveys. How many people came to the lunchtime session on data tooling? What are the usage figures for the dashboards in place currently? Are these increasing? A Net Promoter Score is a supportive measurable; will people recommend the program to others?

Then look for evidence of behavior change. [Qlik and Accenture's Human Impact of Data Literacy Report](#) found that 61% of employees report that feeling overwhelmed by data has contributed to workplace stress. A simple benchmark survey repeated over time could uncover some positive findings in relation to this theme of reducing workplace stress, for instance. Find metrics that relate to the business benefit you're looking for and the changes in employee behavior, rather than their views or emotions, as this provides more tangible information. Which behaviors are on the rise? Which are dropping?

In the longer term, you can trace the ROI of these decisions, which will lead to metrics relating to areas such as revenue growth, time savings and cost reductions - for instance, you could track the number of diverted phone calls, number of resolved service incidents or average time on a call.

**Relevant Resources:**

[Gartner research: How to measure the value of data literacy](#)

[The behavioral science behind data culture](#)







## Principle 6: Adopt a systemic perspective

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Developing a truly data literate organization means thinking holistically and investing in the roles, structure and resources that will nurture it on this journey. It will be those companies that take a systemic approach – recognizing how the different parts of the organization work together to support each other on the journey – that will likely connect the dots and see how and where data literacy can elevate their work and strengthen the business.

Part of this means connecting data creators and consumers within the organization. For example, the data team may know that the organization has fresh data or insights about an important opportunity or issue, while the consumers of that data may not know how to find or use it. If this is the case, the data loses its value quickly because the people who need it most will not have access and understanding of it.

Opening up conversations between different departments and encouraging collaboration is a natural way to increase systemic thinking about data literacy and encourage collective problem solving. But it's not only about bringing teams together. Investing in the right tools to catalog the data can facilitate cross-organization access.

**“Your data and analytics platforms should foster collaboration and transparency, or information will likely remain siloed and lose its value. Look for capabilities such as real time virtual meetings, self-service data catalogs, and automated alerts to ease access and encourage efficient interaction among teams and between departments.”**

**David Miller,**

European and UK Augmented Insights Lead, Accenture –  
Applied Intelligence Delivery



## Bringing data creators and consumers together at JBS USA



Food company, JBS USA, isn't in an industry that you'd automatically associate with being data-driven, but understanding the need for constant innovation and a data-led culture, the company opened up data training to all.

They found that the vast majority of people didn't learn by analyzing widgets and abstract concepts. The real learning happens when employees go back to the job equipped with new skills developed during training and applying what they've learnt to their own data. The company also connects the data creators and the data consumers in regular feedback sessions, as the business intelligence (BI) team is on hand to provide employees with the assistance they need to go from a screen full of numbers to realistic, useful insight.

The firm now runs "collaboration hours" once a week, where one of their data experts is available to meet with anyone who needs help developing a dashboard or a specific research project. They let people find their own interests and then provide them with the support they need to develop expertise.

**Relevant Resources:**

[Turning data into wisdom](#)

[How leaders can drive sustainable behavioral change to create a Data Culture](#)

# Principle 7:

## Decide what technology can meet your business needs

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It's very easy to get swept up in the latest innovations and technology fads, lured in by the promise of success because it's worked for someone else. Instead, ensure that you closely evaluate what can work best for your business and its specific needs. Match the technology to the processes and goals of your own company, rather than what's popular. And investigate if the user experience can match the needs and abilities of those it will serve.

### Technology could align to the following needs to support the data literacy drive:

**1**

#### **RAW TO READY:**

the system should automatically identify dirty data, incorrect data types and semantically ambiguous or questionable data. If data is structurally unsound, it cannot be analyzed for patterns and insights.

**2**

#### **DATA IN CONTEXT:**

users will almost always want to know the source of the data – its lineage. If a new platform is set up to house the data, it should be clear to end users where that data has originally come from, as they will be used to pulling it from the original source. Ultimately, the aim is to incorporate data from across the business and ensure it can be used by all; if one department is using one solution and another uses a different one, data will continue to be held in silos and information seekers will likely not be able to see the bigger picture.

**3**

#### **ENABLE SELF-SERVICE:**

information seekers should be able to browse, review and shop for data through a smart catalog. The democratization of data and analytics expands the community from elite data scientists to a broad set of consumers with access to well-vetted, governed data. Making sure that the information can be scaled up and down dependent on need is crucial.

**4**

#### **RAPID ITERATIONS:**

for the more sophisticated analytics users, they need to be able to load, access, prepare, and analyze data in minutes without IT professionals in the loop. They will feel empowered by intuitive dashboards that allow them to access and prepare data with ease.



## Understanding data literacy levels to map tools requirements

Accenture supported a large pharmaceutical company to first assess data literacy levels across its workforce. Working in collaboration with the organization, it shaped a framework for enabling analytics self-service across numerous countries, using their internal cloud platform.

Identifying key persona groups allowed the company to map each group onto its data maturity scale – for instance, groups included data consumers (e.g., business analysts) and data producers (e.g., data scientists and engineers). It then plotted the groups' needs against tools, onboarding and roles to identify the tools needed for each persona that could help drive data literacy in the long-term.

### Relevant Resources

[The transformative impact of the data marketplace](#)

[Active Intelligence: Capture the moment with analytics ready, real-time data](#)



# Common mistakes to avoid

1.

## **TRYING TO BECOME A DATA LITERATE ORGANIZATION OVERNIGHT.**

It can take time to communicate the journey to your workforce and put in place the training, culture and mindset change that allows data literacy to flourish.

2.

## **BELIEVING THAT SIMPLY ASKING PEOPLE TO TAKE A TRAINING COURSE WILL LEAD TO DATA LITERACY.**

Providing data literacy training is meaningless, without giving people the opportunity and encouragement to apply this learning to daily decision making. The skills learned in training can be lost if they are not applied.

3.

## **PRIORITIZING EVERYONE IN THE ORGANIZATION FOR TRAINING.**

Whilst making sure everyone in the organization is data literate is key, you cannot focus on everyone at once. Prioritize those who can use it to drive value, and then move on to the next group so you have a roadmap for upskilling everyone.

4.

## **EXPECTING EVERYONE WILL HAVE THE TIME TO LEARN THESE NEW SKILLS.**

Identify activities with a low barrier to support data literacy development. Blogs, catchups, drop-ins, workshops, case studies that demonstrate success and public recognition for those behind them are all digestible, low-touch methods of boosting data literacy.

5.

## **TREATING DATA CREATORS AND DATA CONSUMERS SEPARATELY AND KEEPING THEM IN SILOS.**

To be able to collaborate, they need the same experiences and to learn from each other.

6.

## **MAKING DATA LITERACY SEEM ARDUOUS OR OVERWHELMING.**

It is accessible to anyone who is interested and willing to learn, rather than a skill only few can master.

# What does success look like?

There's no doubt that data literacy is a vital skill for the future. Believing that and putting in the investment, however, are two different things, particularly when it requires cultural and behavioral change alongside upskilling and a shakeup of culture. While every organization has different goals and approaches, success comes when everyone is empowered to think differently, use data to gain new insights and make smarter decisions, and when a culture of curiosity, intellectual humility and data decision-making becomes part of the fabric of the organization.

At that point, data really does become a language of business that everyone speaks.

**Get in touch to get started on building a successful data literacy program**



# Contributor biographies

## **PAUL BARTH, GLOBAL HEAD OF DATA LITERACY, QLIK**

Barth is the former CEO of Podium Data, which developed advanced data and analytics solutions for Fortune 100 companies. Through his leadership roles at Schlumberger, Thinking Machines, Epsilon, Tessera, and iXL, Barth led the discovery and development of parallel processing and AI technologies that dramatically accelerate and simplify data management and analytics.

## **SAM NETHERWOOD, SENIOR MANAGER, APPLIED INTELLIGENCE AT MUDANO, PART OF ACCENTURE**

A Human-Centered Designer, Behavioral Change and Organizational Development specialist with experience in providing experimental solutions for data, decision-making, analytics, learning and organizational performance. Netherwood has a passion for utilizing behavioral science, complexity theory and ethnography to change the way organizations perceive, value and use data.

## **KEVIN HANEGAN, CHIEF LEARNING OFFICER AT QLIK AND CHAIR OF THE DATA LITERACY PROJECT ADVISORY BOARD**

Hanegan's passion is the intersection of business, technology, learning, and psychology. He promotes diversity and inclusion within company processes and brings a human approach to working with data. He authored *Turning Data Into Wisdom: How We Can Collaborate with Data to Change Ourselves, Our Organizations, and Even the World*.

## **EDWARD COE, AUGMENTED INSIGHTS MANAGER, ACCENTURE APPLIED INTELLIGENCE**

Coe is an Analytics and Business Intelligence specialist, who leads teams to deliver large end-to-end analytics and data visualization solutions across industries, as well as advising on analytics and BI best practices.

## **DAVID MILLER, EUROPEAN AND UK AUGMENTED INSIGHTS LEAD, ACCENTURE – APPLIED INTELLIGENCE DELIVERY**

A former Doctor of Clinical Psychology, Miller Leads the Augmented Insights team at Accenture Applied Intelligence to help organizations manage large scale complex solutions to alter how firms work to adapt and respond to changing environments led by technology and data.



#### About the research

The Data Literacy: The Upskilling Evolution report is based on research conducted by Censuswide of 1,209 C-level executives and 6,197 global full-time employees in organizations of 50+ employees in the UK, USA, Germany, France, Japan, Australia and New Zealand in October and November 2021. This research was combined with expert interviews with industry specialists by Futures Consultancy, The Future Laboratory.

#### About Accenture

Accenture is a global professional services company with leading capabilities in digital, cloud and security. Combining unmatched experience and specialized skills across more than 40 industries, we offer Strategy and Consulting, Interactive, Technology and Operations services — all powered by the world's largest network of Advanced Technology and Intelligent Operations centers. Our 699,000 people deliver on the promise of technology and human ingenuity every day, serving clients in more than 120 countries. We embrace the power of change to create value and shared success for our clients, people, shareholders, partners and communities.

Visit us at [www.accenture.com](http://www.accenture.com)

#### About Qlik

Qlik's vision is a data-literate world, where everyone can use data and analytics to improve decision-making and solve their most challenging problems. A private SaaS company, Qlik offers an end-to-end cloud platform that delivers real-time data integration and analytics solutions to close the gaps between data, insights and action. By transforming data into Active Intelligence, businesses can drive better decisions, improve revenue and profitability, and optimize customer relationships. Qlik serves more than 38,000 active customers in over 100 countries.

[qlik.com](http://qlik.com)