

# Lead with Data™

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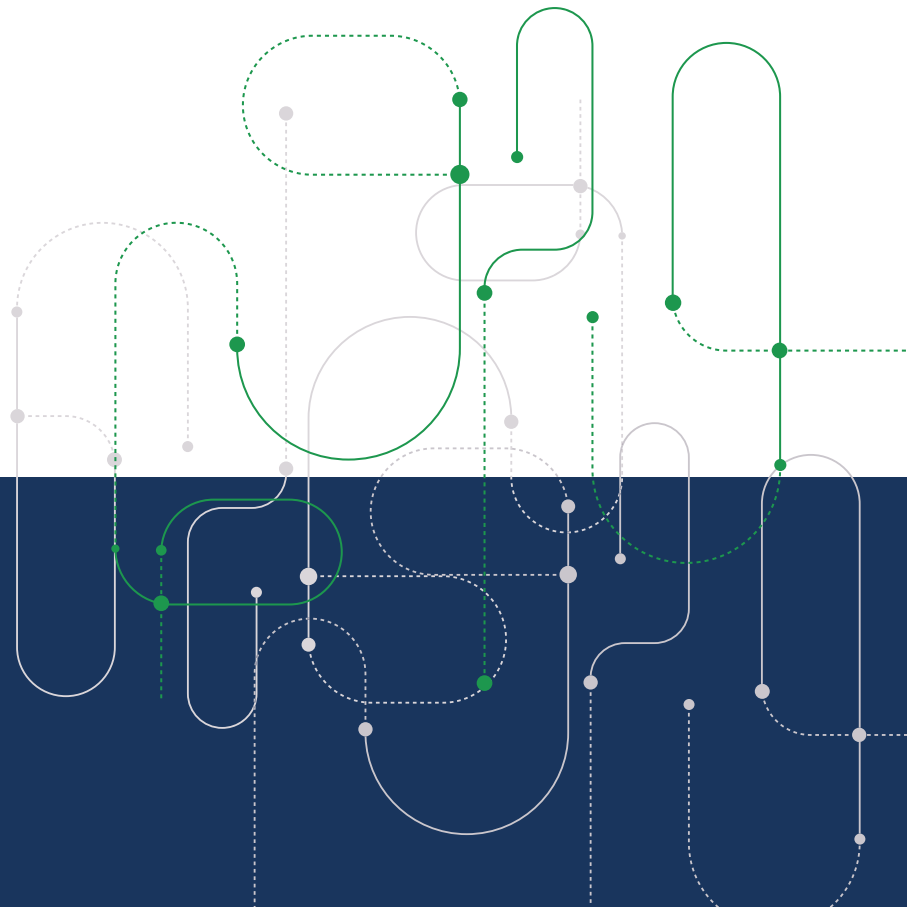
## How to Drive Data Literacy in the Enterprise



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# Foreword

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Digital world leaders will emerge from the enterprises embracing and extending analytics throughout their organizations. But low data literacy is holding many teams back. And stalling digital transformation initiatives.

MIT defines data literacy as the ability to read, work with, analyze and argue with data. It's a skill. One that empowers all levels of workers to ask the right questions of data and machines, build knowledge, make decisions, and communicate meaning to others.

Yet new research shows business leaders are struggling to master data literacy themselves. And that's leading to widespread deficiency in data confidence.

Without data literacy, leaders can't thrive in today's analytics economy nor can they drive any sort of cultural change toward leading with data across their organizations.



Jordan Morrow  
**Head of Data Literacy, Qlik**

# Key Findings



## Enterprise-wide data literacy is low:

**24%** of business decision makers surveyed are fully confident in their ability to read, work with, analyze, and argue with data.



## Senior leaders do not display confidence:

**32%** of the C-suite is viewed as data literate, potentially holding senior leaders back from encouraging their workforces to use data to their advantage.



## Future employees are underprepared for data-driven workplaces:

**21%** of 16 to 24-year-olds are data literate, suggesting schools and universities are failing to ensure students have the skills they need to enter the working world.



## Organizations are losing competitive advantage because better data literacy drives higher enterprise performance:

**85%** of data literate people say they are performing very well at work, compared to 54% of the wider workforce.



## Data is key to professional credibility:

**94%** of respondents using data in their current role agree data helps them do their jobs better and they also believe greater data literacy would give them more credibility (82%) in the workplace.



## There is an appetite to learn:

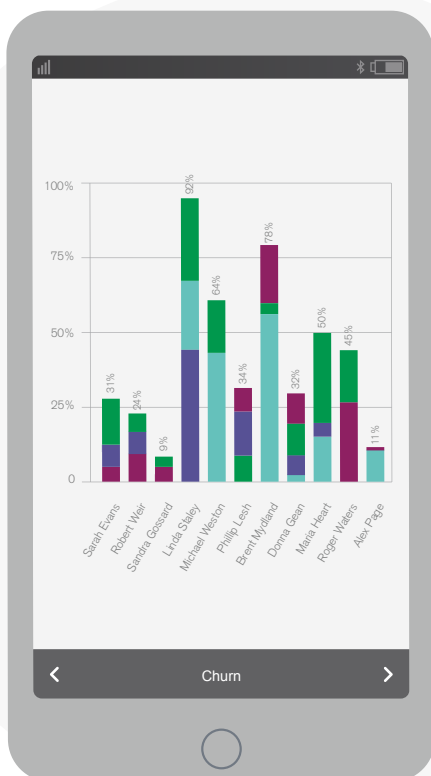
**78%** of business decision makers said they would be willing to invest more time and energy into improving their data skillsets.

## Methodology

The research was conducted by Censuswide on behalf of Qlik. The research surveyed 7,377 business decision-makers (junior managers and above). Respondents were from across Europe, Asia and the US. Research was carried out between August 2017 – February 2018. Censuswide abides by and employs members of the Market Research Society which is based on the ESOMAR principles.

# Data Literacy: Insights Across the Enterprise

Gartner is promoting data and information as the second language of business. Yet just shy of a quarter (24%) of the more than 7,300 business decision makers Qlik recently surveyed consider themselves data literate. That is fully confident in their ability to read, work with, analyze, and argue with data.



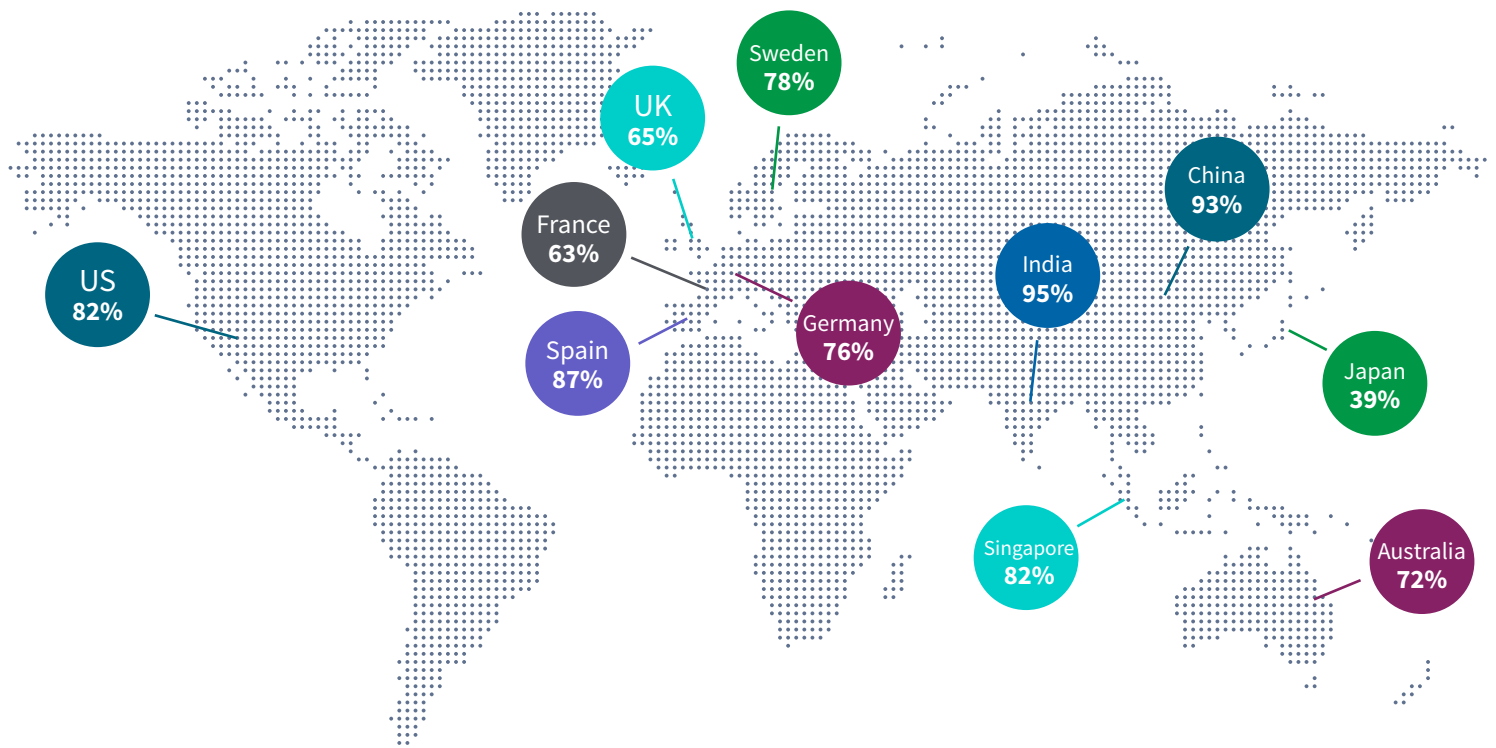
Employees without data literacy skills are struggling to match the performance of their data-savvy colleagues. This isn't surprising given the vast amounts of information being produced every day. And the situation isn't likely to improve soon. IDC forecasts a ten-fold increase in worldwide data by 2025. Increasingly data-driven organizations will translate into employees that can read, work with, analyze and argue with data contributing more to their roles and organizations.

# Data Literacy: Insights Across the Enterprise

## Data literacy as a career booster

The vast majority (85%) of data literate people say they're performing very well at work, compared with just over half (54%) of the wider workforce. Most people using data in their current job role agree that data helps them do their job better (94%) and they also believe that greater data literacy would give them more credibility (82%) in the workplace. The desire to perform well at work means most workers are desperate to dive into data. So much so that over three quarters (78%) of respondents said they would be willing to invest more time and energy into improving their data skillsets – if given the chance. This represents a significant opportunity for businesses to lead with data, transforming existing cultures without much resistance.

## Workers Willing to Invest More Time and Energy into Improving Their Data Skillsets



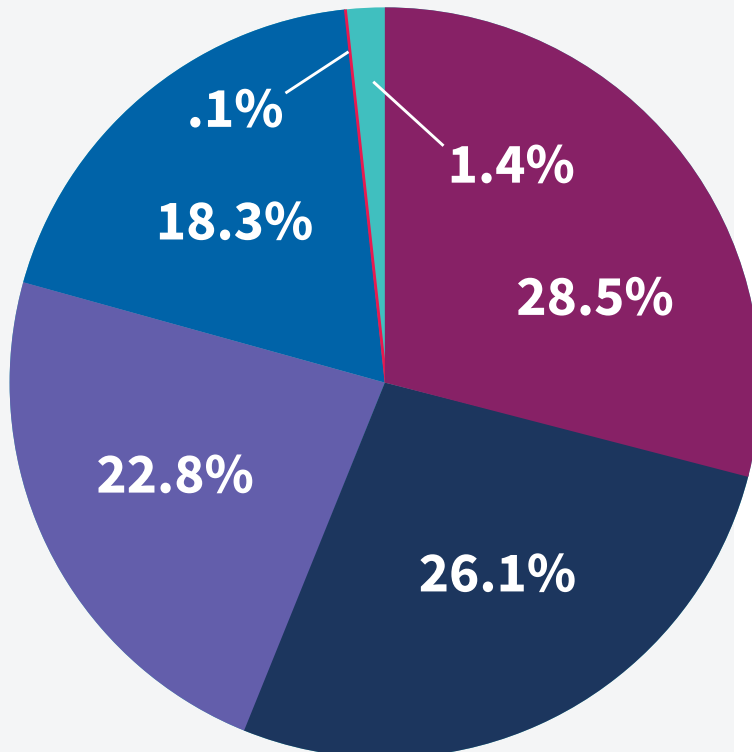
# Access to data

Historically, only a few executives in any business had wide access to data. But that model is evolving fast. Maintaining competitive advantage necessitates democratizing data so more employees have greater access across the business.

There are success stories, but the research also identified vast inequalities. For example, senior executives (80%) are more likely to agree than junior and middle managers (67%) that they have access to all the data sets they need to perform their job roles to the highest possible standards. And only a quarter (26%) of all respondents said that everyone in their business is empowered and proficient in using data.

## Enterprise Company Culture in Terms of Data Use

- Most functions are empowered to use data and the majority of people are proficient in reading, working with, analyzing and arguing with data: **28.5%**
- Everyone is empowered to use data and are proficient in reading, working with, analyzing and arguing with data: **26.1%**
- The majority of people have access to the data they need: **22.8%**
- Only a small number of people are empowered to use data and the majority of people are not proficient in reading, working, analyzing and arguing with data: **18.3%**
- Nobody is empowered to use data and the majority of people are not proficient in reading, working with, analyzing and arguing with data: **1.4%**
- Other: **0.1%**



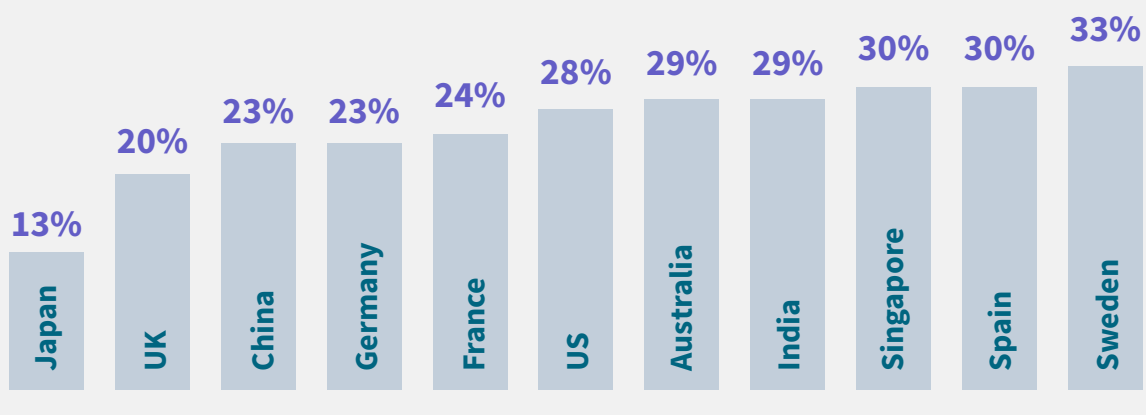
# Quooker

## Driving Growth by Delegating with Data

Quooker invented the boiling water tap. A Dutch family business, it has grown rapidly and now supplies hundreds of thousands of European households. However business success –doubling in size every three years–has come with challenges. For example, business leaders can't always oversee every decision. According to Geertjan Woltjes, Quooker's Chief Operating Officer, employees empowered with data perform their job roles better which helps the organization scale.

**He says:** *"If you want to be agile and grow in the way that we have been doing, employees must be trusted to make their own decisions. Access to dashboards and tools means our staff do not need to consult a manager before changing schedules or calling suppliers; they can just get on and do it. We are seeing the most data literate employees really enjoying the autonomy, driving business growth and accelerating their careers. Over time, dedicated education programs will grow the confidence of all employees with varying levels of ability. We believe everyone should have the opportunity to make important decisions based on accurate insights and achieve more in their job role."*

## Locations of organizations where employees are empowered and proficient in data



### Data inequality

Data empowerment in the enterprise varies across regions and countries. Sweden has the highest percentage of organizations where everyone is empowered to use data (33%), while Japan trails at 13%.



# Data Literacy: Challenges for Enterprise Leaders

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Many factors prevent data from being infused throughout an organization. That's why it's important to consider the following when building a data-driven culture:

## 1. Tackling resistance from the workforce

Organizations and cultures are built on tradition. Years and years of it. Change typically sees resistance because some people are simply stuck in their ways. They want to work the way they've always worked and make decisions based on gut feel — something 45% of survey respondents admitted to doing frequently. Raising awareness among this group that the business is moving to a data-driven culture will be critical to success.

## 2. Finding a data champion

Resistance may also come from the top. That's why data champions have to have a seat at the table. They can help business executives better see the importance of data and offer guidance— an important contribution considering employees believe just 32% of the C-suite is data literate. The roles of Chief Data Officer (CDO) or Chief Analytics Officer (CAO) carry weight and are becoming critical pieces to ensuring entire organizations become more data literate.

## 3. Opening new data sets and the role of governance

Enterprises are experiencing unprecedented levels of data production and consumption. Employees are using new datasets to uncover new ideas and new insights that help drive better business decisions. Is governance even needed in this era? Absolutely, yes. When organizations promote the democratization of data and self-service analytics, leadership must be responsible for governance. For ensuring answers and insight are properly vetted and accurate. At Nemours's Children's Healthcare System, employees from all departments outside of IT can now deploy new analytics applications and dashboards. With each deployment, these individuals are championing data accessibility. And they're doing it with Qlik®.

# Data Strategist and Best-Selling Author, Bernard Marr:



*“Data is a major source of power and the foundation for transformational change through artificial intelligence, automation and advanced, predictive analytics. And while we’re seeing huge progress being made to uncover insights which will drive efficiencies and improve customer experiences, further growth is being hindered by a widespread deficiency in data confidence.*

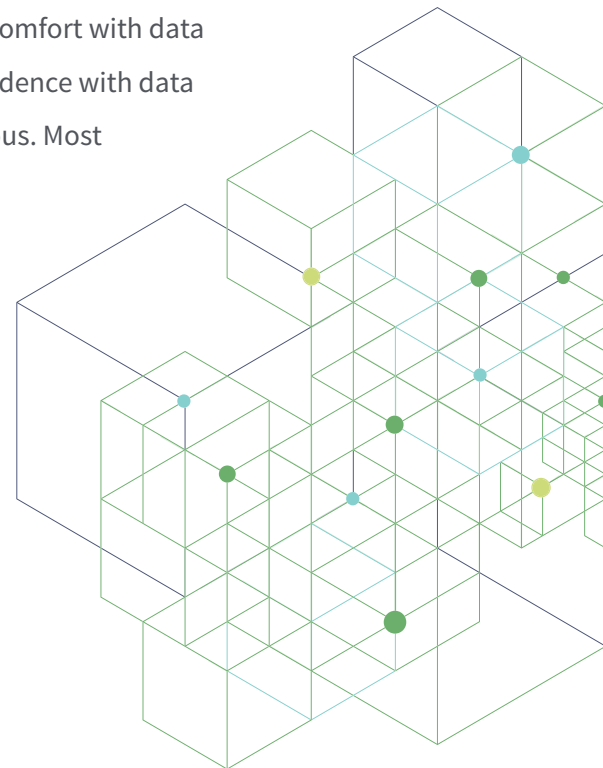
*Particularly in a large organization, there are likely to be many untapped insights and pockets of productivity, and these will only be uncovered if the right questions are asked by the right people. The more empowered employees are to read, write, analyze and argue with data, the more they will be able to contribute to their roles and the future of their organizations.”*

## 4. Overcoming insecurity

Nearly a quarter (21%) of 16 to 24-year-olds surveyed rank themselves below average when it comes to data literacy confidence. This suggests schools and universities are failing to ensure students are prepared with the skills they need to enter the workplace. Although today’s students have grown up in a digital world, familiarity with screens doesn’t seem to be translating into comfort with data interrogation. The opportunity for businesses to merge digital confidence with data literacy as students leave school and enter the workforce is enormous. Most important, employers should not assume students are already data confident and proficient.

## 5. Breaking down organizational silos

Enterprises do employ many talented and highly data literate employees. They just traditionally have joined IT or business intelligence teams, and often sit isolated from high-level business decision makers. Establishing forums for these and other data leaders to answer questions and share their knowledge will be critical to enhancing employee skills at all levels.



**David Tan**

## Data Champions Inspire a Data-Driven Culture

United Overseas Bank Limited (UOB) is a leading bank in Asia. It has a global network of more than 500 branches and offices in 19 countries and territories in Asia Pacific, Europe and North America. Across its network, the bank employs more than 25,000 people. UOB is focused on providing the best possible customer experience and it has built a team of leading data scientists and analytics experts to co-innovate and drive strategic projects for the organization.

Every two weeks, in addition to internal training, UOB runs Open Learning sessions which are popular with employees. That's because participants can ask UOB data analytics experts any question. While fostering knowledge across departments, employees are learning how to adopt data analytics in the course of their own work. At the same time, UOB can identify areas where the greater organization may benefit from additional skills development.

David Tan, Head of Big Data Analytics Centre, UOB, says: *"We have some incredible analytical brains within our organization and they play an integral role in raising data literacy among all employees. As we adopt technology such as AI and machine learning to enhance the way in which we serve our customers, we want communications to be open so that everyone across the bank understands the data-driven possibilities."*

## Blueprint to Driving Data Literacy

**Starting a data literacy movement may feel like a mammoth task. After all, you'll be working to ensure everyone can succeed with data and attempting to drive a culture change in your organization. That's across lots of workers and departments. But don't despair. And whatever you do, don't wait.**

Gartner recently predicted 80% of companies will initiate competency development by 2020. The right messaging and framework can help you begin your revolution now. Introducing new insights and new abilities. It all starts with a 4-step process: Communicate > Assess > Train > Iterate. This same framework can be used for an entire organization or a small team.



### **Communicate the power of data**

Talk about the power of data. Discuss data literacy on a consistent basis — from the top of the organization on down. For example, showcase how a unique customer insight led to a new business opportunity. Or share how an individual overcame obstacles and got traction and approval on a new idea by presenting robust facts and stats. Practical examples show employees how data can help them individually. And they help reduce resistance to a data-driven culture. Every Monday at Qlik customer Wrightington, Wigan and Leigh NHS Foundation Trust in the UK, the CEO sends an internal email that often includes statistics about how data services improved quality or efficiency.

### **Assess progress**

Understanding the current skill levels and skillsets of all employees is required for enterprises to successfully proceed through the four-step process and achieve the ultimate goal: a culture of data literacy. Assessments and surveys are helpful tools during the analysis process. Once the evaluation is complete, leaders can customize training programs to empower different individuals across the organization.

### **Establish training programs for different data personalities**

Just 66% of Qlik survey respondents believe they've received adequate data training. There's definitely no 'one-size-fits-all' approach when it comes to data literacy training. Discover ways to support different personalities equally at the end of this report.

### **And repeat....**

From healthcare to manufacturing and retail to education, data is flooding organizations. In just two days, humans now create as much information as they did from the dawn of civilization until 2003. While the skills required to manage ever-increasing data sets continue to evolve, the work to drive data literacy skills across organizations must begin now, be long-term, and be sustained.

## Making Insights-as-a-Service Work for All Staff

Lloyd's of London — the world's leading insurance provider in 200+ countries and territories — invested in a new Data Center of Excellence. Among the reasons: to ensure employees in all parts of the organization, with varying levels of ability, have the opportunity to achieve more with data.

Online training courses and a new company website, My Data, give employees an overview of all the data in the business. Where it comes from. How it's used, and more. Because Lloyd's is emphasizing transparency with data, it's also providing easy access to all apps and dashboards across the organization.

Lloyd's is focused on both helping employees become more data literate and ensuring those employees that are already data literate can communicate how they derive value from data. Both education and data value communication are critical to driving an enterprise culture of change.



### Nick Blewden

Head of Business Intelligence and Data Products, comments:

*"In the digital economy, all our staff are users of data, and we're working with a huge range of data literacy abilities. The need to up-skill is nothing to be ashamed of or frightened of. However, it does need to be taken seriously — particularly in an industry like ours where we are under intense competitive pressures and need to operate as efficiently as possible.*

*Ultimately, all the data personalities across our organization have one thing in common, and that's that they want to understand the value they can get from data. Once they experience direct benefits to their working lives, and potentially even a career boost, they want to keep engaging with us and accessing data independently. To drive a culture change, there has also been an element of us becoming a "yes" team — if we go out of our way to provide insights which solve real, everyday problems, data quickly becomes deeply ingrained in the business."*

# Data Personalities to Manage Across the Enterprise

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Organizations are different because people are different. Yet for an enterprise to become data literate, everyone needs to buy in. Everyone needs to understand data and its value. Everyone needs to become part of building a new culture. One in which data literacy skills can thrive. Think of the effort as a combination of learning, mentoring, and stewardship.

**Different data personalities exist in all organizations. Because each must be trained to support the new culture, here are some ways to raise their data literacy:**

**Data Aristocrat:** No data stone goes unturned when the Data Aristocrat is around.

His or her high aptitude for understanding bodes well for future opportunities. Appeal to the Data Aristocrat to help up-skill and uplift others through mentoring, communicating and training.



**Approach:**

- Develop these employees with enhanced skills in storytelling as leaders and mentors
- Ensure their training includes leadership, mentoring, and continued education in algorithms and the latest data and analytics methodologies

**Data Knight:** Data Knights feel the weight of ever-increasing data stores, sometimes becoming overwhelmed by it all. They are skilled at battling data, but their armor is not bullet proof. Use Data Knight skills wisely, combining their knowledge of smart data discovery with laser sharp analysis to the benefit of the organization.



**Approach:**

- Develop their skills around data science, algorithms, and statistical analysis
- Ensure they interact often with executives and department leaders, enhancing their storytelling skills to spread the data literacy message

**Data Dreamer:** Data Dreamers are keen beans who recognize the importance of working with data and its benefits to their organizational roles. The downside: they may take data at face value because they don't know how to interrogate it properly. They need to improve their data skills.



**Approach:**

- Start at the beginning with Data Dreamers — have them attend a foundational course on data and analysis, including content on critical and analytical thinking
- Expand their knowledge with more advanced analytical concepts
- Expand their knowledge with more advanced analytical concepts

**Data Doubter:** Intuition never lies is the Data Doubter's motto. In his or her mind, automated processes and data-driven decisions are no match for gut-feel. These employees are fed up with the amount of facts bombarding them every day. Often they just ignore them, so why would they use them at work? They prefer to leave analysis up to data experts.



**Approach:**

- Start Data Doubters with awareness training, helping to expand their mindsets
- Introductory training will build foundational thoughts about how to incorporate data and analytics into their work





## Empowering and Engaging a Workforce

WWL NHS Trust — an organization of nearly 5,000 employees — minimized workforce resistance to data literacy by developing data-driven applications in collaboration with frontline staff. This helped secure early buy-in and ensure newly introduced technology answered the right employee questions. The Trust set up a voluntary Quality Champions program to teach employees how to use information to identify quality improvement opportunities. According to Mark Singleton, Acting Associate Director of IM&T and Head of Business Intelligence at the Trust, the key to its success was empowering employees to use the data to answer questions and make real changes.

He comments: *“Our approach is to give employees the training & tools to view their data and ask questions that haven’t been able to be answered nor asked before. Turning insights into action and experiencing positive outcomes for themselves means employees continue to lean on data to inform and enforce new ways of working. We are building up the skills and the abilities across the organization — from domestic staff cleaners to nurses and analysts — so the BI team shouldn’t be a bottleneck to them getting the answers they need.”*

## Learn More: Get Data Literate



How will organizations thrive in digital business? The answer is simple: all employees, at all levels will be data literate. They will examine data, make discoveries, share insights, and transform their organizations. Now is the time to bring together executives, employees, and educators to drive a culture of data-driven change.

Qlik is leading the data literacy charge with a new program designed for ecosystems and industries that empowers everyone to understand, analyze and use data with confidence. Qlik’s program is fostering a culture of data literacy inside organizations through product-agnostic learning focused on data strategies, analytics and statistical concepts that can be used in any context and with any BI tool.

**Get started today. Visit [qlik.com/getdataliterate](https://qlik.com/getdataliterate)**





## About Qlik

Qlik is on a mission to create a data-literate world, where everyone can use data to solve their most challenging problems. Only Qlik's end-to-end data management and analytics platform brings together all of an organization's data from any source, enabling people at any skill level to use their curiosity to uncover new insights. Companies use Qlik to see more deeply into customer behavior, reinvent business processes, discover new revenue streams, and balance risk and reward. Headquartered in King of Prussia, Pennsylvania, Qlik does business in more than 100 countries with over 48,000 customers around the world.

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