



POWERING
POTENTIAL



How to build a data-enabled organisation in 2021

Overcoming the barriers to learning and change



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Is a lack of data skills holding back your organisation?

Looking around your organisation today, how many people would you say are truly data literate? Less than 10? More than 100?

And what about the number of people who are comfortable with data?

Research commissioned by the Data Literacy Project^[1] reports some startling statistics. Just 21 per cent of the 9,000 people surveyed described themselves as fully confident in their data literacy skills — i.e. confident in their ability to read, understand, question and work with data.

74% feel overwhelmed or unhappy when working with data

36% find an alternative method to complete a task without using data

14% avoid the task entirely

For organisations, the impact of such high levels of data illiteracy, and discomfort, is huge. While a small group of people with advanced data skills are able to provide valuable insight that

translates into high level company strategy, large numbers of customer-facing teams will be held back by their lack of data skills and confidence.

- Product managers may find it hard to recognise trends and create promotions that leverage insight and drive revenue next quarter, or next month.
- Digital marketers may struggle to identify UX trends in a website that could create a step change in engagement.
- Sales teams may struggle to justify strategic pricing to the investment committee for a high potential customer if they cannot confidently talk in terms of significant lifetime value.

Faced with the uncertainty of the post-Covid-19 economy, organisations need the agility that data literacy provides to be able to respond quickly to rapidly changing customer expectations and to ensure that digital transformation programmes move at speed.

^[1] Qlik and Accenture | The Human Impact of Data Literacy



How did we get here?

In spite of decades of talk about the potential of big data, investment in the data literacy skills that enable organisations to take advantage of data has not kept pace.

Instead, organisations have continued to invest in specialist data insight teams, new ways of gathering customer data and the latest technology platforms. These organisations have understood the data challenge as a technology and IT driven change, but not as a crucial skill that all employees need to develop, failing to become truly data-enabled as a result.

This approach has limited the power of true data-driven decision making to a specialist function rooted in the IT department, or the CEO's office - a 'data ivory tower'. As a result, the majority of business professionals within an organisation have little exposure to how strategic decisions are reached, and individuals make decisions based on opinion and gut feel, or reject data purely because it doesn't match their understanding of the world view.

Organisations that are successful in harnessing data on a wider scale use it to make important insight-based business decisions and drive customer value across every team and function. They understand that not everyone needs to be a data specialist to achieve this. Rather, everyone should feel empowered to use data – and the tools available - to solve business problems relevant to their role.

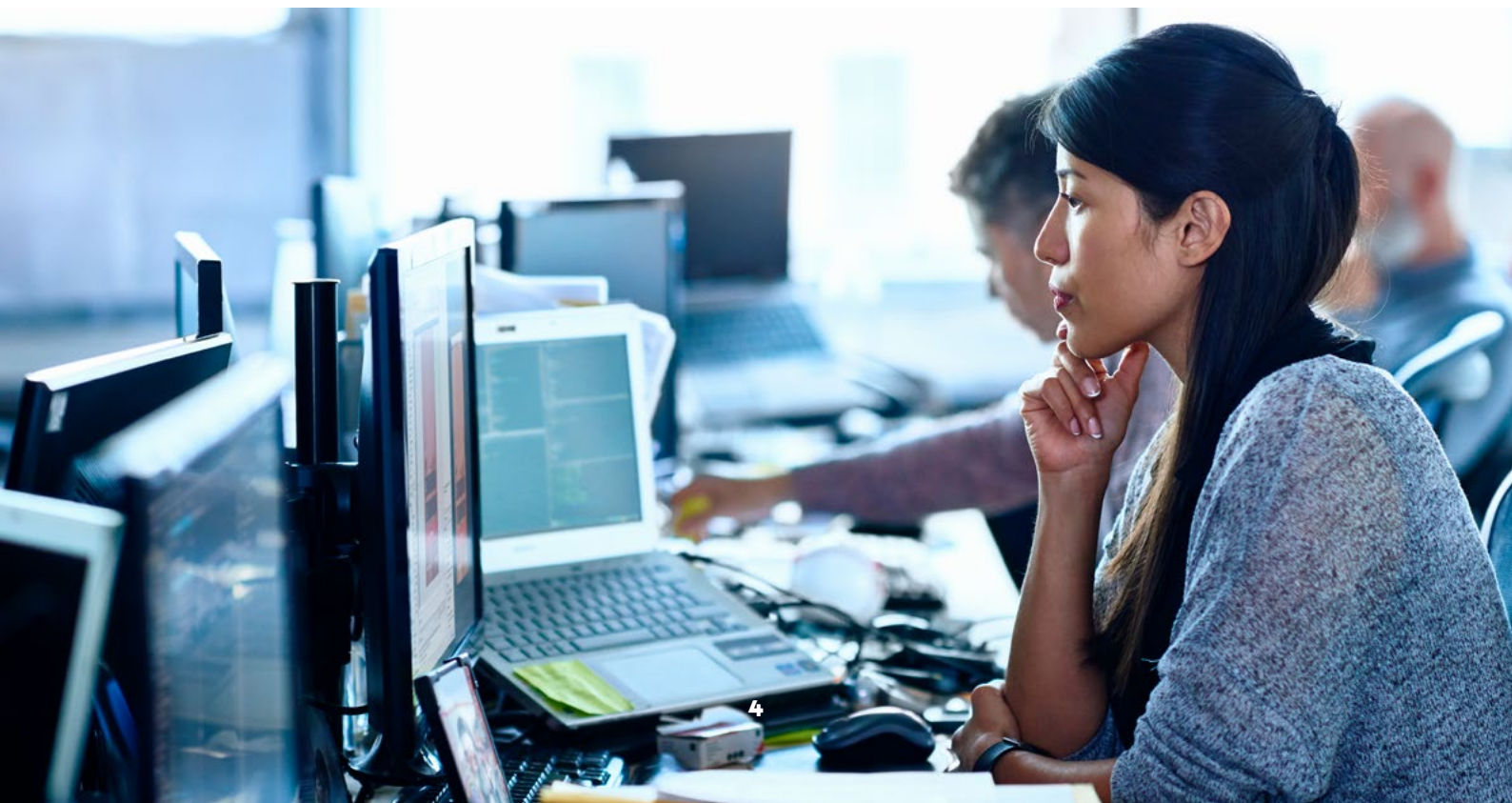
But developing organisation-wide data literacy starts with an enabling culture. And it's here where organisations are struggling. A recent New Vantage Partners survey ^[2] of senior executives about data and how organisations extract value from it, reported the following

90% think that the challenges to becoming data-driven are in people, process and culture – not technology.

38% say they have created a data-driven organisation.

27% report success at forging a data culture within their firms.

^[2] Big Data and AI Executive Survey 2020, Data -Driven Business Transformation: Connecting Data/AI Investment to Business Outcomes, New Vantage Partners





Continuing on this trajectory is self-sabotage

Data analytics tools, such as Microsoft Power BI, are today more powerful and accessible than they've ever been. With intuitive and easy to use dashboards, they're designed for more individuals to self-serve, ensuring data is available at the most appropriate place to drive decisions with the highest impact.

However, just providing universal access to state-of-the-art tools such as Microsoft Dynamics or Power BI will no more make an organisation data-enabled than ubiquitous access to Microsoft Excel will. They alone cannot create value from volumes of data, or drive adoption. For these tools to work effectively, organisations need to establish a solid foundation of data literacy amongst the people using them.

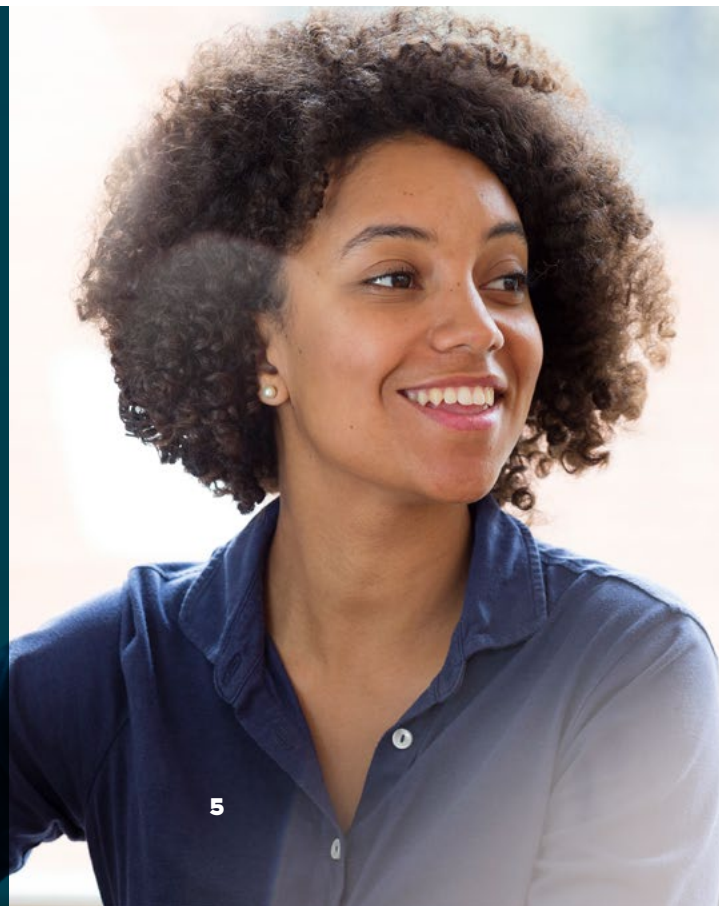


Continuing in the current vein, or giving up on the objective of data-driven organisations and cultures, isn't really a viable option. That would mean the eventual demise of legacy organisations in favour of digital native firms. While human change is almost always more difficult to accomplish than technical change, it is hardly impossible. The companies that change the paradigm of data management and exploitation in a more human direction will, we believe, be the leading firms of the future.

Big Data and AI Executive Survey 2020, Data-Driven Business Transformation: Connecting Data/AI Investment to Business Outcomes, New Vantage Partners



Since 2018 QA has invested in and supported learning programmes and solutions in data literacy. We recognise it as the missing link in data transformations that joins the power of technology to the passion of people





The roadblocks to adoption

What's holding back the development of data culture?

In the past, the technological barrier to entry forced many organisations to hand data projects to the analysts because the tools were concentrated in the hands of the few. In doing so, they have – often unintentionally – created the perception for everyone else that data is scary, intimidating, complex or even a resource that not everyone needs.

Now with the technology barrier removed – thanks to the wide availability of data insight tools - organisations should be reversing this perception and demystifying the concept. Unfortunately, the skills that are essential to getting the most out of powerful data manipulation tools are missing in many learning and development plans. Organisations need to close this skills gap, while also investing in a mindset and cultural change that makes people not just comfortable with data, but curious about it too. Doing this will create a demand for data from everyone in the organisation.



Companies continue to focus on the supply side for data and technology, instead of increasing demand for them by business executives and employees. It's a technology push rather than a pull from humans who want to make more data-based decisions, develop more intelligent business processes, or embed data and analytics into more products and services.

Big Data and AI Executive Survey 2020, Data-Driven Business Transformation: Connecting Data/AI Investment to Business Outcomes, New Vantage Partners



Without the shift from “push” to “pull”, the change will not happen.



Is this a problem that can be solved with new tech talent?

Traditionally, when faced with a skills deficit, organisations hire in new talent. But this is one problem that can't be solved by hiring more data scientists. While universities, colleges and apprenticeship programmes are providing greater access to data talent, the solution is not to continue building data silos.

Instead, organisations must dismantle the data ivory tower and democratise data, with the business objective of creating a genuine culture of data literacy in every team and every department.

There are plenty of benefits to doing this:

- Organisations that embark upon large-scale data literacy upskilling programmes will empower teams with agile decision-making skills that allow them to respond quickly and confidently.
- Upskilling existing staff combines knowledge of the company with technical proficiency, ensuring data insights add even more business value.
- Upskilling builds loyalty. 94 per cent of employees say that they would stay at a company longer if it invested in helping them to learn^[9].

It's time for a mindset change

As organisations realise the more sustainable option is to upskill and re-skill their existing workforces, it is likely they'll turn their attention to data-related courses and training.

But a word of caution: sending large quantities of staff on a standard data literacy course, or providing online training in the latest technology, in a mass box-ticking exercise isn't the way to do it. There is a need for a more long-term approach that will both fix the issue today, and for the future.

IDC forecasts a ten-fold increase in worldwide data by 2025^[4] so the need for data skills is only going to increase, especially as markets become more competitive, customer expectations rise, and the volume and complexity of customer (interaction) data grows. The key skills required to analyse, argue with, defend using and understand using data are as vital as it once was to teach people fundamental information security principles.

Building a competency is not the same as building technical literacy. It requires a mindset change that is critical to the future of any organisation. Organisations need to tackle the vulnerability and uncertainty around data and start building data confidence and curiosity. And this literacy should be instilled in everyone, not just a small group of people.

In the last 12 months, QA has supported leading organisations across retail, finance, insurance and energy to deliver their data literacy transformation. Helping more than 1500 learners develop skills through at scale programmes in Business Analytics, Data Visualisation and Data Storytelling whilst supporting our smaller customers with a public schedule of events in Data Literacy.



Curiosity should be encouraged and rewarded

To encourage curiosity, organisations have to move the dial on the importance of data from all sorts of sources. For example, has your team thought about using mapping data from Google to understand how local drivers may impact employee productivity or poor footfall in a store?

Organisations that combine their IT investments with this mindset change will reap the rewards, as people develop the ability and desire to interact with data on a daily basis. What was once “we’ll put in a request for the data team to look at this” will be replaced with “let’s have a look at this now”, or better still, “this is what I think the data is showing us.”

It is early days but companies that are taking this approach are seeing the reward:

The small group of champions are high-growth companies. They have grown revenues and profits above their industry average in the last five years and are expected to do so in the future. They have set the bar for becoming a data-driven enterprise.

Emmanuelle Payan, IT Strategy and Transformation, Accenture Strategy^[5]

^[3] LinkedIn 2019, Workforce Learning Report, <https://learning.linkedin.com/resources/workplace-learning-report>

^[4] Data Age 2025: The Evolution of Data to Life-Critical, IDC White Paper sponsored by Seagate.

^[5] Accenture, Closing the data value gap, <https://www.accenture.com/us-en/insights/technology/closing-data-value-gap>





Encouraging adoption across the organisation

Having established that a large upskilling programme and cultural shift is required, where should organisations start?

In developing data literacy, it's important to remember that there is not a one-size-fits-all approach. Every organisation's journey will be a unique challenge. They will need to work with people, technology and change functions to deliver maximum value but here are 7 key considerations QA believe you should take into account, based on the digital literacy programmes that QA has delivered so far:

1. Acknowledge the fear and start normalising data

Because of the way data has been handled in the past, and the increasing volume and complexity of data today, it's natural for people to feel vulnerable around it. But vulnerability gets in the way of adoption, causing people to deprioritise or procrastinate over data-related tasks. And so, there's a need to help people feel less intimidated.

Data and insight need to be normalised. Demystifying data can start with something as simple as making data visualisation the standard way to report monthly performance results in team meetings, or quarterly organisation-wide town halls.

2. Understand base levels

Kicking off any change management agenda begins with understanding the starting point. It's essential for leaders to really understand the data literacy skills levels in their organisation, as well as what their literacy requirements are.

There are some good assessment tools available to help with this, such as Carruthers and Jackson's Data Maturity Assessment, the Data Literacy Project's assessments or Microsoft's AI Business School. It is helpful to measure culture, mindset, technology, risk and governance as dimensions of this assessment.



Not only will measurement provide an accurate view of the base level in the organisation, it will also help set the direction of travel and, importantly, the communication agenda. Creating a big buzz around training programmes that include human stories will help light the spark of interest and curiosity across the organisation.

3. Start small then scale up

The scale of the challenge may seem insurmountable now. But the important point is to get started.

The primary goal is to get the non-data specialist to a basic level of digital literacy, where they are interested in looking at data and want to interact with it. For many individuals, this will make a significant difference. They will be comfortable with using the basic functionality available in tools like Power BI. It's helpful to attach the skilling to real data-enabled business outcomes so that everyone immediately sees where and how datasets add value to their work.

Organisations might start by upskilling team by team, to start learning what works. From there, it may be helpful to identify a group of people that have the ability to become more advanced data users, and progress them further. The important thing is to get started and then keep moving forward.

4. Focus on what is right for your organisation...for now

Every business is different. Data literacy requirements in a UK-wide supermarket will be different from those in a charity or IT services company. The challenges and scale will differ enormously in an international enterprise and an SME but this doesn't make the reason for data literacy any less valid.

It's important to accept that levels, needs and progress will keep moving. Organisations shouldn't fixate on what might be required in three- or five-years' time. Otherwise, they risk never starting.

Instead they should encourage and reward curiosity at every point in the journey, celebrating small early wins with those human stories that will encourage other colleagues and teams to join in.

5. Take early lessons learned – measure progress and improve iteratively

There is no need to make this complicated. Organisations can keep it simple – especially if it's a given that all teams at some level will need to develop increased data literacy. If engaging in an Office 365 rollout, for instance, organisations can measure which teams are accessing tools like Power BI, Dynamics, and Microsoft PowerApps and use them as exemplars for the art of the possible.

Data literacy levels should be measured at the start and then regularly to track progress, using platforms such as Cloud Academy or Microsoft Learn.

It's helpful for organisations to measure the relevant dimensions for the change they want to see. This is a time of cultural change and skills development, and it is hard. One of the first steps to take is to build a hypothesis and test it. Organisations that measure and map progress will discover what they're executing correctly and incorrectly, demonstrating the transparency, honesty and vulnerability that are hallmarks of data culture.



6. Keep learning

Data and the tools used to collect, store and analyse it are always changing. Likewise, investment in continuous learning at every level should become normal for every organisation.

It's important to remember that the end goal is not to create a workforce of data wizards. There will always be a competency difference between data specialists and data-literate employees. Rather, the goal is to empower every employee with the ability to improve the way they work using today's most valuable business asset. This includes the ability to:



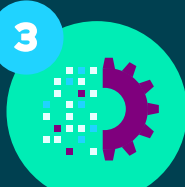


- Ask confident and achievable questions of data
- Work alongside data teams and understand the art of the possible
- Develop baseline skills in data analysis and visualisation
- Be able to tell effective stories with data
- Analyse and model data using tools such as Excel and Power BI
- Take analytics to powerful self-serve capability through machine learning and artificial intelligence

7. Let go of the power

Finally, the interesting thing about data is that data means power. Business leaders have to be ready to let employees at all levels harness this power. They have to let them make data-driven decisions and then be willing to act on the insights uncovered. If not, demotivation and frustration will set in, and all the investment in technology tools, mindset shift and skills development will be futile.

Recognising the data-enabled organisation

How will organisations know when they have achieved an enterprise-wide data democracy? Here are the characteristics of a data literate workforce:

A data literate workforce can...	How this manifests itself
<p>1</p>  <p>Understand and access relevant data sources</p>	<p>Organisations understand what data they do and don't have. They're aware of the art of the possible with data and ask effective questions of it.</p>
<p>2</p>  <p>Question and interrogate the data</p>	<p>Organisations form a hypothesis and identify the benefits to the business. They're able to read, interpret and defend their data and use simple statistical methods.</p>
<p>3</p>  <p>Interpret data, identify patterns and present findings visually</p>	<p>Organisations validate or invalidate a hypothesis, pivot or commit business investment based on data in a way that everybody can contextualise and understand.</p>
<p>4</p>  <p>Communicate the data in context, linking findings back to the business</p>	<p>Organisations become data storytellers – using the findings to create impactful experiences for those they need to convince and improve confidence in what data can do.</p>
<p>5</p>  <p>Champion ethics and governance</p>	<p>Organisations understand what can and cannot be done with data. They create a capable can-do attitude that implements data protection, and ethical use of customer data with integrity.</p>



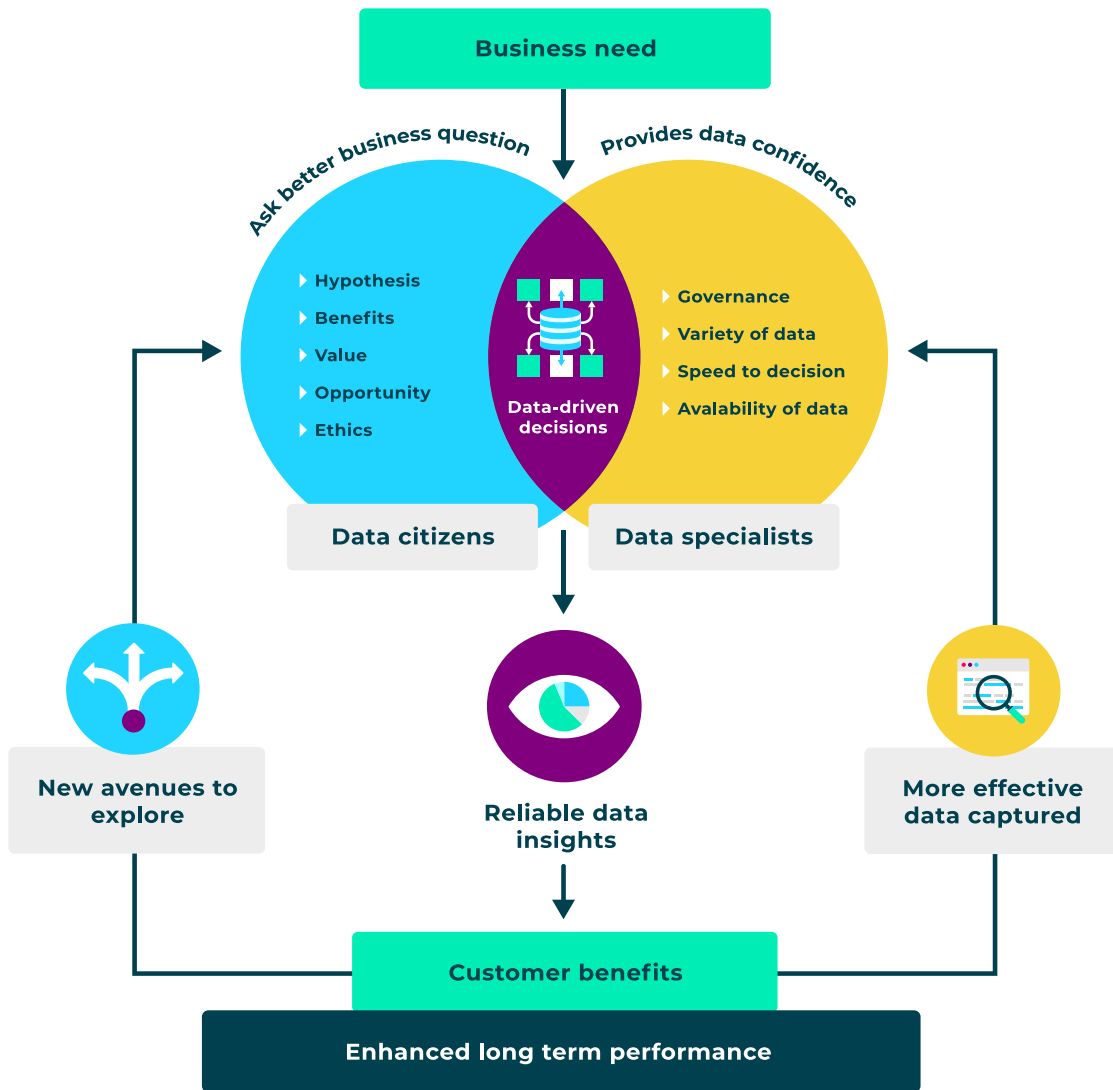
Why do it now?

The growth of data was a well-publicised phenomenon before the pandemic. Now, with organisations racing to digitise greater numbers of customer interactions and gather more behavioural data to fuel new product innovation and more competitive pricing, that volume of data is set to explode.

But given the multitude of other post-pandemic budgetary demands, why should organisations try to drive this cultural mindset now?

There are a number of reasons:

1. Rising customer expectations are driving the need for faster decision-making. Organisations that empower sales staff or customer service agents with real-time data that allow them to nimbly offer a discount or a free replacement increase the opportunity to close a deal.
2. Restrictions around Covid-19 are changing business environments daily. Decisions have to be made quickly to allow businesses to move forward. Organisations that do not have democratised access to data, and the developed skill to consume insights from it, run the risk of making ill-informed decisions at pace – placing the organisation at increased risk.
3. We have more data now than ever before. The increasing growth, types and complexity of data are not going to stand still. This is not a storage question; it's an architectural question – how does a specialist insight team engineer access to data so decisions can be made as close to the customer as is possible? So much enterprise data gathered today is never analysed, which brings into question why it is being recorded. This head in the sand approach is literally leaving money on the table.
4. Data confidence is increased when we allow teams across the data value stream to bring their own specialisms. When enough people in cross-functional teams collaborate, build confidence and use data to agree on the course of action, it oils the wheels of every digital transformation programme and allows projects to move at speed.



Organisations that emerge stronger from 2020 will be those that are agile, can respond quickly to changing customer demands and that have enabled their staff, within the relevant governance framework, to act quickly and close the deal.

Don't assume big data automatically delivers value. Our research shows that a higher percentage of employees interacting with more types of data is more beneficial than just more data, which can even have a 'dark side'. The circumstances in which big data can be beneficial need managing, skilfully and astutely, to drive performance.

Ian McCarthy

W.J. VanDusen Professor of Innovation & Operations Management, Beedie School of Management



Conclusion

The mistake we see across many of our customers is that the investment in modernising data infrastructure and availability is not routed in the benefit to the customer through the increased speed of decisions making within an enabled business community.

Ultimately organisations should be thinking how data enabled decisions and a data culture will affect the operating model of the organisation to deliver informed, empiric business decisions. For the capital investment in data engineering, analytics and science teams to scale effectively the critical competency of business analytics must become a norm for all functions within the organisation.

It is that point that tag lines such as democratising data become achievable – with the business user as critical to operating the complex machinery of big data and AI to augment their skills. Without it organisations will have built a powerful engine that does not extend across the entire value stream and will fail to deliver the returns the organisations had hoped.

How QA can help

Whether you want to rapidly upskill your existing employees, or introduce new talent into the mix, QA can help. We are working at the forefront of the digital revolution, supporting 85 per cent of the FTSE 350 and helping more than 5,000 organisations develop the skills to enable their digital transformation.

Our highly-skilled client managers will partner with your IT, HR and L&D leadership teams to build a complete understanding of your specific skills and requirements. Together, we'll help you develop a sustainable programme to create the required capabilities and break down the barriers to opportunity.

Resources

Data and AI tools your organisation should consider

QA runs a wide number of Data and AI courses ranging from Power BI Desktop for Business Users to Fundamentals of Statistics and Leading Data Driven Business and Projects Workshop.

We have structured our courses to allow learners to develop the skills required for their roles, or to progress through skills competencies and learning pathways that help learners move from Fundamental to Intermediate and then Experienced balancing technical skill, problem solving and critical reasoning. On average, learners give QA an average NPS score of 8.8 out of 10 for our Data, Analytics and AI training between Jan and Oct 2020.

You can find the latest list **here on the QA website**.

In addition, we provide a number of apprenticeships in this discipline, for example Data Analysis and Data Level 4 Apprenticeship Programme

Other useful sources include

- **Microsoft AI business school**
- **Microsoft PowerBI learning**

Reading list

- The Data Literacy Project, thedataliteracyproject.org
- New Vantage Partners, Big Data and AI Executive Survey 2020
- Harvard Business Review, Companies are Failing in Their Efforts to Become Data-Driven, Randy Bean and Thomas H. Davenport, February 2019
- Harvard Business Review, 10 Steps to Creating a Data-Driven Culture, David Waller, February 2020
- Infoworld, 4 Reasons Big Data Projects Failed and 4 Ways to Succeed, Andy Patrizio, May 2019

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