CAPCO

DATA LITERACY

THE KEY TO UNLOCKING A DATA-DRIVEN ORGANIZATION

INTRODUCTION

In a digital world with exponential technological advancements, the ability to comprehend and communicate a common data language is a vital skill for organizations today. Data literacy has therefore become a key component for organizations and is the ability to read, analyze, utilize, and communicate data.

Despite this, on average, companies make only 48 percent of decisions based on quantitative information and analysis — a number that has not moved a great deal over the past couple of years due to a lack of skills at all levels, and as a result is impeding their transformation into becoming an insights-driven organization.[1]

A data-literate organization is critical to minimize new risks that arise from data not being correctly handled. There are many recent examples of large organizations being fined tens of millions by regulators due to a lack of data literacy. In this increasingly digital and regulated financial landscape, the demand for data literacy is not going to abate, it will continue to grow. It is time for organizations to make sure they have the tools to unlock its value.

In this paper, we will share:

1. The meaning and importance of data literacy
2. How to understand your organization's current state of data literacy
3. What the journey to data literacy looks like (and what firms can do before embarking)
4. Key cultural factors and risks surrounding data literacy
5. How Capco can help you
6. Closing thoughts.

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1. Predictions 2020: Customer Insights, Forester, October 2019.

THE MEANING AND IMPORTANCE OF DATA LITERACY

Data literacy is the ability to read, analyze, utilize, and communicate data. Data literacy can be broken down into two key dimensions, firstly as an organization and through its people. These dimensions complement one another and empower firms to ask the right questions, build knowledge, make effective decisions, and most importantly, cultivate a data capability among individuals.

PEOPLE & SKILLS

Comprehension
Read, write and understand data, understand how to access this in the organization

Collaboration
Work with others to solve problems and enable decision making while partnering with other teams

Impact
Deep understand of the impacts of data and potential it holds, across firm with accountability and ownership

Confidence
Build and have enough understanding in accuracy of data and the access people have to trust it as basis for action

Decisioning
Low risk decision making enabled by data and evidence

Innovation
Use data to execute processes, methods and prove hypothesis and brush boundaries of the possible enabled by experimentation and curiosity

Use & draw insight
Assess format in the way needed and enable insights to be easily drawn

Storytelling
Use data to tell a story and effectively communicate ideas and persuade decision making

Ethics
Know the right and wrongs of data, socioeconomic impacts and how to safeguard against the misuse of it

ORGANIZATIONAL

The data literacy of an organization also needs to be considered at the macro level in order to use data to get the best outcomes.

The organization needs to constantly address how best to utilize data to inform or enhance decisions, processes and the way it earns revenue and brings value to its customers.

To be successful, and continue to be, organizations must understand the key measures and indicators for success, establish success thresholds and constantly strive to meet them.

The business then needs to continuously assess and critique these measures and indicators to improve upon its measurements of outcomes.

Being a data-literate organization is critical today to drive innovation, growth and profits. A data literate organization is also key to minimize new risks that may arise from data not being correctly handled.

In the current digital world, customers expect real-time, easy to use, personalized services that require a more customer-centric, technology and data-led approach for servicing. A data-literate organization is fundamental in minimizing new risks that arise from data not being correctly handled, to contain costs that arise from the changing technology landscape and to grow new data-driven avenues for business. However, companies are struggling to becoming insights-driven organizations.

International Data Corporation, a global provider of market intelligence, forecasts a ten-fold increase in worldwide data by 2025.[2] It is expected that by the end of 2025, 59 zettabytes of data would have been produced in the world.[3] Organizations will naturally produce a vast amount data, for which data literate employees will be required to contribute more to their roles and help businesses to sharpen their competitive edge. Ninety-four percent of people 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 percent) in the workplace.[4] Data literacy is hence crucial as it not only has the ability to transform an organization, but also builds loyalty with a workforce, empowered by the investment in their professional development.

The ongoing COVID-19 pandemic has highlighted just how crucial it is for firms to make strategic decisions with confidence, whilst harnessing data effectively. Societal interactions are now heavily digitalized, which is increasing the rate of datafication. Data literacy is therefore an urgent matter as society conforms to new forms of interfaces. Nonetheless, the majority of FS products and services depend enormously on data, and because of this, some FS firms are already enhancing their data literacy.

Benefits of Increasing Organizational Data Literacy

- Increasing data literacy allows firms to draw insights of customers whilst also offering services of greater relevance

- Firms with greater data literacy levels see an increase in enterprise value of between 3 to 5 percent.[5] Ultimately, such insights mean that organizations have better judgment and can therefore make better decisions

- Strong data literacy in the organization is important to leverage the value of maturing data platforms and modern data architectures

- Operating models of the future and the people within them need to be able to harness the power of event-driven architectures and platforms that can process higher volumes of data at increasing velocity

- As more technologies and platforms are in a position to process and leverage unstructured data, people need to be in place to harness the insights available from these modern platforms.

Pitfalls of Not Increasing Organizational Data Literacy

- As mentioned previously, big data means that organizations are dealing with incredible amounts of data. If low data literacy persists, this will hold many teams back, and stall digital transformation initiatives massively

- Without data literacy, leaders will struggle to thrive in today's analytics economy, which will impact how much they can effectively drive any cultural data changes across their organizations

- Similarly, for employees, those without data skills will struggle to match the performance of their data-savvy colleagues,

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2. https://inform.tmforum.org/news/2017/04/idc-predicts-ten-fold-increase-data-2025/
3. https://www.statista.com/statistics/871513/worldwide-data-created
4. https://www.qlik.com/us/-/media/files/resource-library/global-us/register/analyst-reports/ar-how-to-drive-data-literacy-within-the-enterprise-en.pdf
5. https://thedataliteracyproject.org/posts/guarding-against-complacency-why-financial-services-need-to-keep-up-with-the-data-literacy-pace

which is likely to lead to a fragmented data and workplace culture and low data confidence among the workforce

- For this reason, firms must take action to avoid organizational silos across teams and maintain competitive advantage, particularly where competitors are conforming to a data-literate operating model

- Furthermore, an employee's ability and desire to drive better business outcomes through using existing and emerging technologies is another vital skill for organizations to adopt. This is known as digital dexterity, for which data literacy is an underlying component of.

KEY STATISTICS

The volume, velocity, variety, and veracity of data is only going to increase, yet:

- Only 32 percent of leaders believe they can create measurable value from data[6]

- Just 27 percent of leaders believe their analytics projects produce actionable insights.[7]

The financial repercussions of a lack of data literacy within financial services firms have been captured in the press all too recently. In 2020, data protection penalties climbed by as much as 40 percent, and firms operating in Europe were hit with €273m in fines for GDPR infringement.[9]

Insights-driven firms are growing at an average of more than 30 percent annually and are on track to grow eight times faster than global GDP.[8]

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94% of people 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. (Qlik Survey, 2018)

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6.   The Data Literacy Project, Ibid.

7.   Ibid.

8.   Ibid, Forrester, 2019.

9.   Ibid.

HOW TO UNDERSTAND YOUR ORGANIZATION'S CURRENT STATE OF DATA LITERACY

We have studied many high performing data-literate companies. We believe the best ones have tailored their learning and development for the diversity of their workforce. However, we believe no organization has yet reached 'data literacy utopia' in Stage 3: Data fluency – where any organization can disrupt learning platforms and enhance data literacy outwards, potentially impacting positive socioeconomic change.

We have outlined the journey to fluency in climbing the data literacy ladder but beware the pitfalls!

Stage 1: Profile

Understand your organization's current state and answer the following questions:

- What is our baseline and what skills do we have?
- Are we championing data and success?
- Where are our power users?
- Are citizen data scientists realistic in our organization?
- What are our interactions?
- Do we have the right career paths in our organization to attract right talent?
- Where is our talent?
- How many of our decisions are based off data?

Then, you need to profile your organization as detailed on the right, understand the personas you need to tailor training for. You can then skills and training needed for each persona and role.

Being data literate does not mean everyone learning to code. Everyone needs to be data literate, including your organization.

The first step is to profile your organization to understand the personas and roles you need to tailor training it is important to invest time upfront to understand learners and their diversity. It is important to understand the kind of data personas below as they tend be mapped organically to the different roles people are doing in a company.

Dataphobic
Someone with low confidence in their data skills and underestimates how much data they already use.

Data genius
Data analysts, scientists: they are top of the line and need to hone communication, leadership and mentoring

Data pragmatist
Someone that doesn't use data or analysis in job but could be taught to improve performance using data

Data perfectionist
Someone that lets perfect get in the away of good the good progress – bring them on iterative data improvement journeys

Data communicator
Know how to present and question data, asking good questions and lead data projects

Data sceptic
Most likely a nonmember of the team – help them understand the importance of data and get them involved in data projects.

3 POSSIBLE APPROACHES	PROS	CONS
Exam-based Test everyone in the organization against defined data literacy skills and needs	Accurate view of where organization is now and informs how to proceed with training	Could cause damaging impact to people, culture and morale of organization by creating anxiety over job securities
Survey-based Get everyone to participate in a questionnaire that they answer along a sliding scale for defined data literacy skills and competencies	Capturing perspectives of individuals and enables quick and easy data aggregation to baseline organization	Can be subjective and results are open to manipulation
Baseline at zero Measure above from the current state	Enables you to easily baseline and produce a plan from the start	Less tailored to your organization's past and current state to devise a plan

When designing training programs, considering the following:

- Locations: are there regional and cultural considerations to consider per region?

- Multichannel: can we run bake-offs and other forms of competitions, and use gamification?

- Incentives & bursaries: is there encouragement of intellectual curiosity and continuous learning?

- Career frameworks: Are there varied and non-linear career frameworks that motivate people to continue enhancing their data literacy?

Remember: you do not have to do all this yourself, think about how you can partner and engage with others, such as:

- Vendor partnerships

- Institutions

- Internal business functions

- Campuses (some departments in your organizations already may be data literate, what can you learn and repeat?).

The above will enable you to climb the ladder to Stage 2.

Stage 2: Accelerate & reinforce data literacy throughout your organization

Now that you have strong data literacy initiatives embedded into your departments, and these are running effectively, you should then think about:

- Monitoring and gathering data points: continuously track current data literacy and improvements with well-established KPIs

- Solidify partnerships with institutions to bring best-in-class thinking

- Continuously evaluate new technology and techniques to train people

- Develop omni-channel training programs: gamify, peer to peer and competitions to cater for different learning, cultural and neuro diversities.
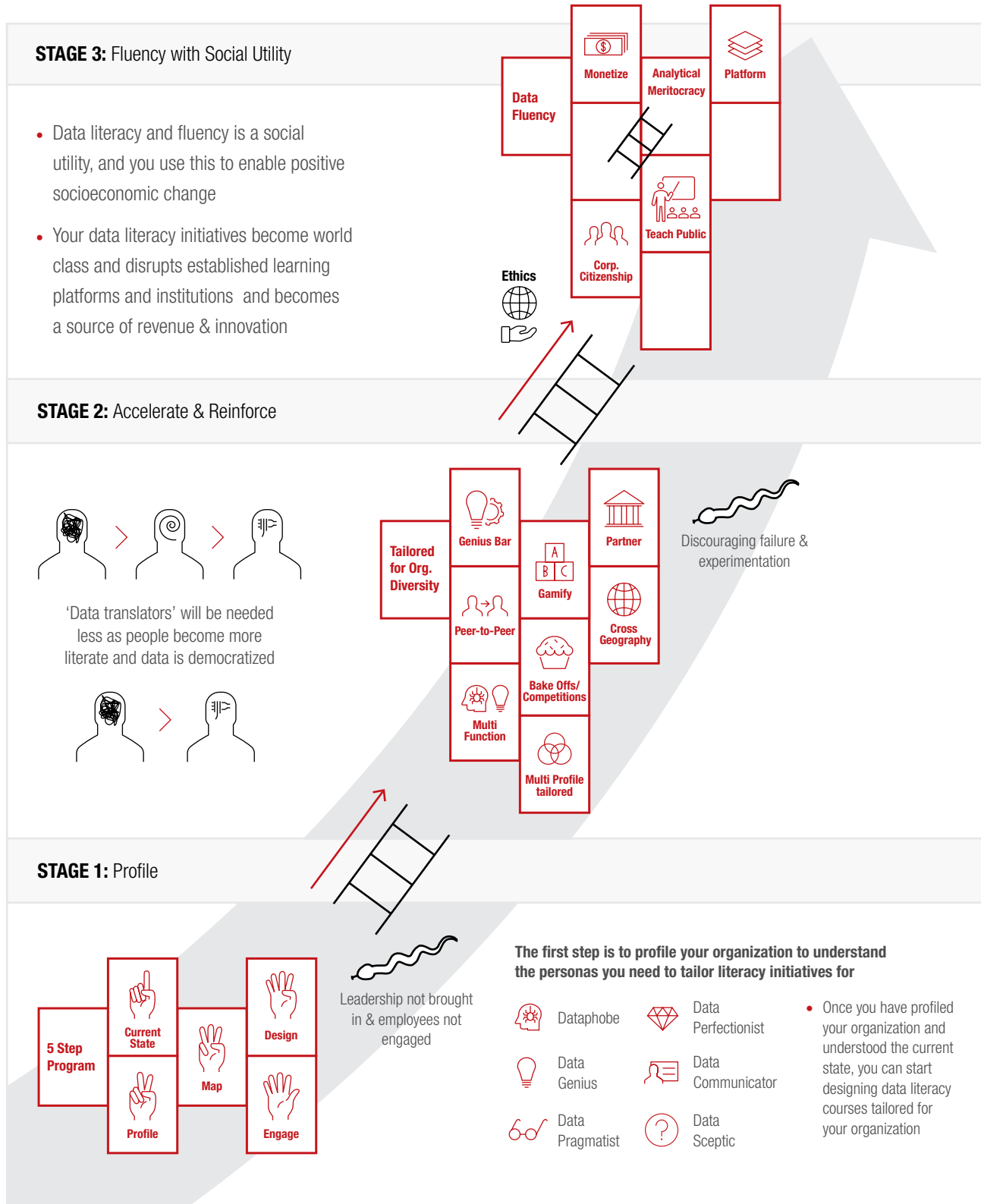
Stage 3: Data fluency

Your data literacy initiatives have become world-class and disrupt established learning platforms and institutions. Here are some things to consider as you become data fluent as an organization:

- 'Data translators' will not be needed, as people become more literate and organizational data is now democratized

- You can monetize your training capabilities as a service and platform

- Engage via social learning platforms which include competitions and sandbox environments where people compete socially to build the best new trading algorithms and machine learning models to help generate new revenue opportunities to improve your business

- Data literacy and fluency is a social utility, and you use this to enable positive socioeconomic change by:

- Teaching your customers and the public how their data is being used and help them navigate ethical dilemmas and make the best-informed decisions

- You provide training as a corporate citizenship initiative to schools and charities, giving your employees chance to increase their data communication and reinforce their own training by practice.

Think of your organization's data literacy journey through the stages like a snakes and ladders board. You need to be aware of the snakes that can hold you back on the journey, which are discussed as risk factors in the next section.

STAGE 3: Fluency with Social Utility

- Data literacy and fluency is a social utility, and you use this to enable positive socioeconomic change
- Your data literacy initiatives become world class and disrupts established learning platforms and institutions and becomes a source of revenue & innovation

Data Fluency

Monetize

Analytical Meritocracy

Platform

Teach Public

Corp. Citizenship

Ethics

STAGE 2: Accelerate & Reinforce

'Data translators' will be needed less as people become more literate and data is democratized

Tailored for Org. Diversity

Genius Bar

Partner

Gamify

Peer-to-Peer

Cross Geography

Bake Offs/ Competitions

Multi Function

Multi Profile tailored

Discouraging failure & experimentation

STAGE 1: Profile

5 Step Program

Current State

Design

Map

Profile

Engage

Leadership not brought in & employees not engaged

The first step is to profile your organization to understand the personas you need to tailor literacy initiatives for

Dataphobe

Data Perfectionist

Data Genius

Data Communicator

Data Pragmatist

Data Sceptic

- Once you have profiled your organization and understood the current state, you can start designing data literacy courses tailored for your organization

KEY CULTURAL FACTORS AND RISKS SURROUNDING DATA LITERACY

We strongly believe that training is only part of the equation, to make data literacy every lasting and ensuring a data-driven business, culture is the glue to bring it together. There are also risk factors in data literacy projects but these can be mitigated against with prior planning!

Cultural factors

Augmenting data literacy initiatives with structured post-training support will help your organization realize the benefits from it for longer, and promote a culture of life-long learning, especially in regard to data and digitalization, which is an ever-evolving and ever-more complex landscape. We recommend introducing learning as part of the daily flow of work. Multiple studies show the importance of a learning culture in the workplace. In fact, employees rank it as the second highest importance in their workplace happiness[11],; almost half of millennial-age employees would leave a role due to lack of learning and development opportunities[12]; and companies with a culture of learning reportedly have a higher engagement rate of 30-50 percent than those without.[13]

Also, changing company cultures will take time. It is important to think about 'evolution rather than revolution', and to understand and respect the current company cultures, then consider how to define a set of desired values and behaviors around that. Share early success stories of people's milestones in their data literacy journey and champion them; having visible proponents such as this will continue to motivate and inspire employees. Culture and accountability can also be linked to enable the growth of data literacy, having learning milestones linked to performance objectives and performance frameworks can be a significant accelerator.

11. https://www.linkedin.com/pulse/want-happy-work-spend-time-learning-josh-bersin/
12. https://markets.businessinsider.com/news/stocks/docebo-report-reveals-u-s-employees-feel-underprepared-for-their-job-and-are-looking-to-google-for-help-1027877087
13. https://www.workstars.com/recognition-and-engagement-blog/2017/04/28/10-perfect-employee-engagement-quotes/

Learning reinforcement

- We advise a 'hands-on' coaching approach up front, which develops into a lighter touch intervention as experience and confidence develops within the individual / team

Continuous coaching

Learning
Classroom, virtual and online training provides the foundation of learnings

Doing
Each training provides a practical learning experience which can be directly applied to the role in the business context

Coaching
Provide formal and informal coaching for ongoing support to learners who face practical challenges in performing their role

Innovative culture

- Establish a workforce culture that encourages innovation

- Capco recommends the use of proof of concepts to give extra opportunity to talent, giving them to practice new skills and stretch themselves in a risk-free environment

Genius bars

- A post-training support squad will stand up and run regular data clinics, which offer learners a forum to raise practical questions, understand best practice and an opportunity for peer-to-peer learning

- The clinics can be run either in-person within a location or virtually.

CULTURE

ARM   TOOL   MOTIVATE
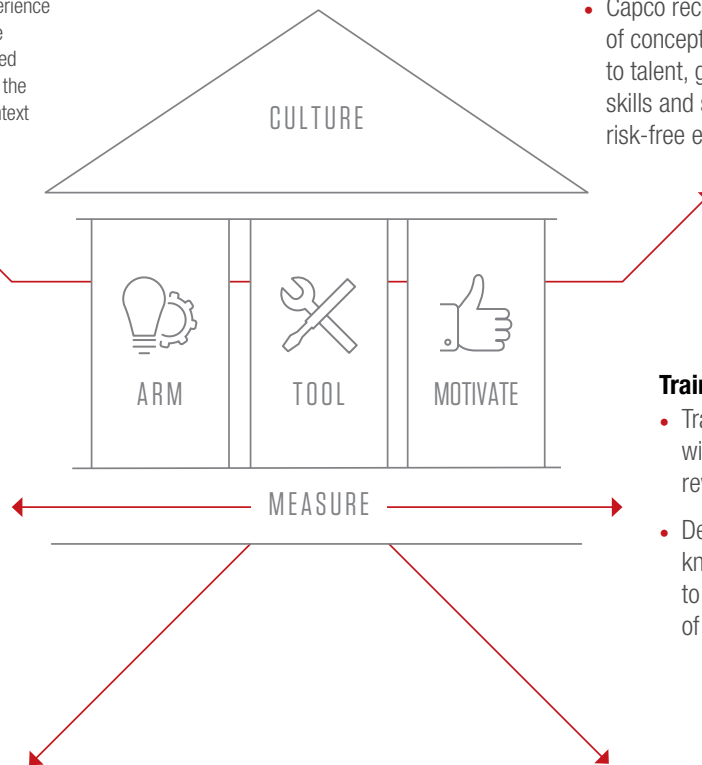
MEASURE

Train the trainer

- Train the trainer sessions will follow the shadow and reverse shadow approach

- Develop a structured knowledge transfer plan to support the upskilling of each trainer

Partner to measure

- Use of vendors and digital education providers in the data and analytics space can be used as a way of continually assessing the progress of employee data literacy levels

- Platforms such as SuccessFactors, Cornerstone & DataCamp can be used to set up custom role-based training plans and track progress

- Data literacy index: Set a base rate and then measure improvements on four key areas: awareness, tooling, skills and decision making

Championing & sharing success

- Talent should be championed when they reach training and development milestones

- Creating a community spirit and encouraging collaboration are key to long-lasting results

Risk factors

Whilst it is important to talk about the benefits of data literacy, there are risks if data literacy initiatives aren't implemented effectively and continually monitored. Identifying and recognizing potential risks to the data literacy initiatives you may deploy is essential. Based on our experience and observations within organizations we identified the most common risks, their impact and how organizations can mitigate them proactively. Identifying and recognizing potential risks to the data literacy initiatives will ensure mitigating actions can be taken early for success.

Risks	Impact	Mitigations
Lack of engagement from leaders, other staff and teams across business units and technology domains	Inconsistent and/or reluctant adoption of data literature across the firm	• **Create an internal marketing campaign** to generate excitement and interest across the firm • **Develop engaging materials and present data trainer SMEs** who clearly articulate the 'why' and the 'how' • **Pilot any training sessions** before formal roll-out to ensure key messages are landing • Creating post training support, in the form of coaching and 'genius bars' to support learners as they progress on their individual learning and development journey
Generic course materials written in a way that doesn't resonate with learners	Leaners are not able to practically apply their learning to their role	• Create **highly engaging course materials** that are specifically tailored to the needs of learners, catering for different ways people learn • **Augment theory with practical examples** that resonate with learners • Make sure any role-based training will include specific **roles and responsibilities expectations** • Curate sandbox-style environments for people to apply training and experiment the skills gained
The learner population get **training fatigue** over time	Engagement levels, particularly for learners that are in-scope for multiple courses within the curriculum, decrease over time	• Formulate a global delivery schedule to ensure **intelligent sequencing** of role-based courses, particularly for learners who are attending multiple courses • The delivery schedule **needs to account for other in-flight and neighboring training programs** • Leverage of a variety of training delivery techniques (e.g. experiential learning), **bringing content to life** and make the **learning experience memorable** (structured role-plays and group exercises etc.)
Over time, **training materials become out-of-date** and no longer aligned to changing business strategies	Training content becomes outdated and the overall program and course level objectives are not met	• The course materials and delivery approach must be **frequently reviewed and iterated** based on learner feedback • Data SMEs and Program stakeholders should provide regular **feedback** and suggest iterations based on changing strategies, objectives etc.

HOW CAPCO CAN HELP

So why would you choose Capco to help you kick start data literacy in your organization?:

1. We know data literacy and have extensive experience: We have extensive data training experience at Tier 1 organizations. This includes designing global enterprise level, data-training programs, developing classroom and online training modules, designing, and delivering immersion events and execution of online training programs for tens of thousands of people at all levels of organization

2. We have learnt many lessons by helping many organizations in their data literacy journeys, as outlined below

3. We know data careers & data literacy: We have a track record of building compelling and engaging data career frameworks

4. These cater for learning and data personas, combining technical and soft skills, as displayed with our Associate Data, Engineering and Talent programs globally.

5. Our culture: Our five values[13] below, define how we work with our employees and clients, are the foundation of our ongoing success, and are at the forefront of everything we do:

    *   Respect
    *   Knowledge
    *   Commitment
    *   Excellence
    *   Integrity

6. We partner with you: here are some examples of how we are working with organizations today:

    *   We carry out data literacy audit to assess where an organization is in their data-driven journey

    *   We can create a data literacy roadmap, strategy and plan for workforce training and upskilling

    *   We will help you design the knowledge transition plan and approach for building knowledge academies

    *   We will deliver new ways of working to superusers and champion teams

    *   We develop career strategies and a data literacy framework

    *   We can assist you with culture, mindset and behavior transformation planning, roadmap and development

    *   We can develop a data literacy index, set a base rate and then measure improvements on four key areas: awareness, tooling, skills, and decision-making.

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14. https://www.capco.com/About-us/Our-culture-and-values

Considerations based on our deep expertise with data training, including lessons from previous engagement and industry intelligence

Understand your audience and their diversity

Learners have different levels of experience and understanding of key topics.

Research of the target learning audience, allows us to tailor the training courses to fit roles, culture and varied levels of subject competence. This should include surveys of participants before and after training to monitor progress and areas of interest.

Not a "tick the box" exercise

It's tempting to assume that the learning and development journey is complete once the learner leaves the classroom.

A range of post-training ongoing support measures, such as 'clinics' and working groups keeps the newfound knowledge fresh and increases the likelihood of a real change in behaviors and decision making.

Gamification

Application of game-design and game principles to improve engagement.

The introduction of game related practical exercises and analogies into course design and delivery will truly help makes the experience memorable for learners.

Keep people engaged

Training is not effective if people are not engaged in the virtual or physical classroom.

Write story boards with the audience and use these to discuss issues, impact points, risks and opportunities. This approach brings together people new to the topic as well as experienced subject matter experts.

Experiential learning

Learning is accelerated using simulation and practical exercises.

Use a variety of training delivery techniques to bring the content to life and make the learning experience memorable. This includes structured role-plays and group exercises.

Community

Training is an opportunity for personnel to connect with the broader organization.

Create opportunities for learners to form networks with colleagues who know data. Data immersion events bring people together to share ideas and understanding, thereby strengthening the data community.

CLOSING THOUGHTS

The ability to comprehend and communicate a common data language is a core necessary skill for organizations. Data literacy has become a key component for organizations - and should not be considered as the remit of just one team, but the responsibility of an organization of data literate people.

A data-literate organization is critical to minimize new risks that arise from data not being correctly handled, to contain costs that arise from the changing technology landscape and to grow new data driven avenues for business.

We believe the best organizations have tailored their learning and development for the diversity of their workforce.

In order to achieving long lasting data literacy in your organization, it is not just about having best-in-class learning and development initiatives. It is important to identify risks early and mitigate, most importantly use culture as a mechanism to make it stick.

CONTACTS

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ABOUT CAPCO

Capco is a global technology and management consultancy dedicated to the financial services industry. Our professionals combine innovative thinking with unrivalled industry knowledge to offer our clients consulting expertise, complex technology and package integration, transformation delivery, and managed services, to move their organizations forward.

Through our collaborative and efficient approach, we help our clients successfully innovate, increase revenue, manage risk and regulatory change, reduce costs, and enhance controls. We specialize primarily in banking, capital markets, wealth and asset management and insurance. We also have an energy consulting practice in the US. We serve our clients from offices in leading financial centers across the Americas, Europe, and Asia Pacific.

To learn more, visit our web site at **www.capco.com**, or follow us on Twitter, Facebook, YouTube, LinkedIn and Instagram.

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