Bringing data fluency to life

How to foster the language of learning for the workforce in an organization

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While there are varying definitions of the term "data literacy" across organizations, this article refers to data literacy as "the ability to read, work with, analyze and use data ethically to solve challenges, drive innovation and create value collaboratively."

Data is the language of progress, of innovation, of growth. It is the language of learning. But data can also be challenging to understand and to use, particularly if it is presented in new technology solutions or formats unfamiliar to the user. As the amount of data increases, people are still limited by the same constraints—a lack of time, resources, and skills, just to name a few. As technology permeates our daily lives, and the availability and application of data becomes more pervasive, data literacy may be an increasingly important skill that is not reserved for those in traditional data-centric jobs.[1] Take AI as an example. Without an understanding of the data feeding models, an organization can run into risks from models producing biased or erroneous outputs. So, to really leverage data for improved mission outcomes, organizations will need to have some familiarity with and access to data, systems, and tools to engage in data-driven operations.

A 2021 survey of federal Chief Data Officers (CDOs) found that identifying opportunities to increase workforce data skills was a challenge for 95% of respondents.[2] Recognizing the importance of data and fostering data-driven culture is an important step, but how can organizations transform intentions to organizational impact? Like a treadmill-turned-bulky clothes rack, data can only be as useful as it is used to help you achieve your goals. Organizations should understand data literacy needs across various roles and develop a plan for how they will upskill their workforce, while also taking a holistic approach to determine that the workforce has the tools and support to use what they learn in their day-to-day work to continuously improve mission outcomes.

It can be important to bring in data literacy at every level and function of public sector organizations. Senior leaders, junior analysts, managers in the field, contracting officers, civilian and military or law enforcement, full-time and seasonal roles all should make data-informed decisions in the course of their duties. And so, they may need to be fluent with the data types and tools that are being used. Each of these roles use data differently every day. Therefore, organizations should know what knowledge, skills, and abilities are required for each role to enhance data fluency, how they can create opportunities for the workforce to learn from and use data, and what they can do to reinforce and incentivize the use of data.

Challenges to better data literacy

Despite having a clear understanding of the importance of data literacy, organizations may often find themselves facing a number of challenges in institutionalizing greater data literacy, including:

Lack of investment and alignment in data literacy efforts

A lack of investment does not necessarily mean a lack of funding. Organizations often invest in data access or technology stacks but fail to invest in employees who ultimately use those tools. Rather, several pitfalls can starve data literacy efforts of resources even if dollars are available:

Competing priorities: Competing priorities can make it difficult to get buy-in for a holistic capacity-building approach. The more data literacy efforts are embedded into an organization, the more coordination, buy-in, and alignment may be needed.

Not aligned with strategy: Organizations can sometimes lack a strategic focus that accurately targets capacity building efforts to have the greatest impact. Resources should be targeted to maximize data literacy.

Rapid pace of change: It may be difficult to maintain relevancy in data literacy programs if they aren't designed to adapt and keep up with current tools or technologies. Consider designing training, systems access permissions, and just-in-time resources with a streamlined—and if possible, automated—review process so that they can be quickly updated with new examples.

Top-down competency model: Not considering the needs for various roles and personas within an organization can result in a one-size-fits-all data literacy program that could fail to bring real value to learners at varying levels or across a wide variety of organizational functions.

Seeing learning as a moment, not a mindset

It may not be enough for an organization to appropriately resource a data literacy program. The program can deliver value only if learners internalize the content and apply it to their work. Without a culture committed to continuous learning and improvement, it could be difficult for an organization to generate lasting impact on data literacy and talent. While tools and training can be provided to determine the understanding and use of data, several pitfalls may again stand in the way of them being properly applied to mission work:

Lack of practice environments: Workers are unlikely to apply their learnings for the first time in high-stakes mission tasks. Therefore, unlocking the mission value of data literacy could start with having secure, realistic practice environments.

Missing incentives to learn: Many organizations say that skill building is important but could fail to provide the incentives that ensure workers take advantage of those programs.[3] Without incentives in the form of performance evaluations, bonuses, or time off for learning, some workers may not take on the work of learning new skills or tasks without anything in return.[4]

Missing incentives to use learning: Government organizations tend to have strong cultures. As a result, there can be a disconnect between a mission that is becoming more data-driven and a culture rooted in existing processes. In these organizations, established business processes or leaders used to "doing it the old way" could delay the workforce from becoming more data fluent.

Toward a more data literate workforce

So, how can organizations avoid the aforementioned pitfalls to become more data literate? Here's what they can consider:

Focus on short- and long-term objectives

First, CDOs should not try to go it alone. They should work toward getting the leadership buy in for enhancing data literacy from across the organization, not just technical executives.[5]

This outreach can come in the form of a process. First, CDOs should align data literacy programs with mission and strategic objectives.[6] This can help the organization

define what it wants to accomplish with data literacy, how to define success, and how that success will be measured.

Once the objectives of a data literacy program are tied to mission outcomes, CDOs can work with HR and mission leaders to identify gaps and core competencies. Understanding where the workforce is at and where the mission requires them to be is often critical to designing a functional data literacy program.[7]

Finally, CDOs should lean on other executives to clarify exactly what each can bring to delivery as well. Chief learning officers can help in the design and delivery of content. HR executives, mission leaders, and even acquisition professionals can help craft incentives to make sure learners are rewarded for their efforts and put in the right positions to apply those learnings to the mission afterwards.

Foster learning as a mindset

Learning shouldn't be an isolated event. Data fluency is not the product of one class or one exercise. It likely requires learning in the flow of work—seeing new tools, new skills, and how they apply to work every day.

It can start with listening to workers themselves, finding out what is important, what is working, and what they value in their work. Organizations should have in place mechanisms to solicit feedback and better understand the current state and needs of the workforce.

Once the needs and values of the workforce are understood, both workers and leaders should have the right motivations to learn *and* to apply that learning to their work. Extrinsic motivations, such as incentive pay and performance evaluation criteria, can help encourage learning as well as help leaders embody the data literacy change they want to see.[8]

Providing greater intrinsic motivation may begin with addressing challenges to greater success. By improving data access, establishing a common terminology, and above all, providing time for creativity, leaders can encourage workers to see the value that data can bring to their work.[9] Then, when successes do occur, leaders can amplify their effect by telling the story across the organization. People naturally tend to want to share their victories, so successes can create data literacy advocates across the organization. With the right stories, organizations can get success to breed success.

How do you get started?

As with so many data tasks, effective data literacy programs require a well-thought-out approach.

Next, CDOs should understand the different segments and personas within the workforce, from senior executives down to new hires. No organization is homogenous; different workers may have different learning needs. Not to mention their varying levels of knowledge at the start. The more an organization makes efforts to customize data literacy programs to the needs of each persona or even individual worker, the greater the impact could be.

Finally, building trust and shared investment among other executives should be considered. No CDO can train an entire workforce alone. They may need HR executives and mission leaders alike to craft the incentives and work environments necessary to capture the true benefits of learning.

Given the key role data is playing in many government missions, if CDOs can avoid these pitfalls and build data literacy in the workforce, they can increase retention, improve efficiency, and provide better services to the public.[10]

Endnotes

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