



MOBILIZE YOUR DATA DEMOCRACY

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MIT CISR research has shown that to achieve greater organizational agility, leaders must empower their teams with operational decision rights to identify new opportunities, analyze potential solutions, make well-informed decisions, and experiment with confidence.¹ For such empowerment to succeed, however, organizations need to establish a data democracy as one of four decision rights guardrails. A **data democracy** is an organizational state whereby employees regularly and universally have (1) *access* to data assets, (2) the *skills* to exploit them, (3) the *motivation* to engage with them, and (4) *guidance* to use them strategically.²

Achieving this state is a challenge for many organizations. Our latest research shows that, on average, only 28 percent of employees typically draw on reusable data assets such as data about customers, operations, process performance, and costs.³ Employees not using available data represent a costly gap, as it is data asset *use* that drives financial returns. In organizations where at least one-third of employees use data assets, data monetization initiatives account for 15 percent of total revenues; in organizations with less use, that figure is under 5 percent.

Most seasoned leaders know that the availability of data assets does not automatically lead to their use; achieving a data democracy requires intentional design. In this briefing, we outline a framework for driving data asset use based on democratization practices regarding access, skills, motivation, and guidance, and the connecting structures that amplify

them.⁴ By systematically investing in these practices and structures, organizations can increase the use of their available data assets and thereby maximize the value they realize from their data investments.

ESTABLISHING WIDESPREAD DATA ACCESS

The first barrier to data asset use is a lack of practical access. Without it, data assets are merely sunk costs. Yet many employees today face significant friction in finding, permissioning, provisioning, preparing, and integrating data before they can use it. This friction results in more employee time spent wrangling data (61 percent) than gleaning insights from it (39 percent).

Two types of practices enable data access: data management practices that transform raw data into accurate, combinable, and relevant assets, and other practices that offer those assets securely to employees via a modern data platform. Our research shows that two connecting structures are particularly effective at enabling these practices: enterprise services and social networks. Enterprise services reduce access friction by giving employees centrally managed, scaled access to data assets, while social networks (e.g., communities of practice) facilitate the peer-to-peer knowledge sharing that helps employees understand available data assets and how to use them.

For example, global construction company Cemex invested in a cloud-based data lake divided into hubs for key business areas (such as sales, supply chain, and finance).⁵ The project began with teams from Cemex's IT function and the corresponding business areas collaborating to curate data from core systems.

1 For more on how leaders can empower teams with operational decision rights, see Nick van der Meulen, "The Four Guardrails That Enable Agility," MIT Sloan Management Review, Fall 2024 issue, <https://sloanreview.mit.edu/article/the-four-guardrails-that-enable-agility/>.

2 A **data asset** is a cohesive set of data that is made readily usable.

3 This briefing reflects findings from the 2024 MIT CISR Data Monetization: Generating Financial Returns from Data and Analytics Survey (N=349). The survey was distributed globally from August 2023 to August 2024 to senior executives possessing an understanding of their organization's enterprise-level data activities and outcomes.

4 Connecting structures are organizational arrangements that facilitate knowledge exchange between data experts and domain experts. For an overview of the five connecting structures, see I. A. Someh and B. H. Wixom, "Data-Driven Transformation at Microsoft," MIT CISR Research Briefing, Vol. XVII, No. 8, August 2022, https://c isr.mit.edu/publication/2017_0801_DataDrivenTransformation_SomehWixom.

5 I. A. Someh, B. H. Wixom, C. M. Beath, and R. W. Gregory, "The Cemex Journey to AI at Scale," MIT CISR Working Paper No. 463, July 2024, https://c isr.mit.edu/publication/MIT_CISRwp463_CemexAIatScale_SomehWixomBeathGregory.

Next, those teams built out a data catalog that captured meta-data about reusable assets, such as their meaning, location, and popularity. The IT function then created an enterprise portal—the Cemex Data Hub—that allowed any authorized employee to access data through an established data view, a business intelligence tool, or an API. IT teams also developed temporary online experimentation spaces they called data labs that equipped employees with access to data, cloud-based storage, tools, training, methodologies, and advice. By 2024, more than 9,000 users across a variety of business areas at Cemex accessed data assets in forty-five distinct domains.

DEVELOPING ESSENTIAL DATA SKILLS

While access is necessary, it is not sufficient to guarantee data asset use. A data democracy requires a workforce that possesses the skills to work with data effectively. Skills-enhancing practices include the programs an organization uses to upskill its employees, ensuring employees can solve problems using data assets.

Large-scale data literacy training is a common starting point, but direct application is the most effective way to build practical, context-specific skills. Cross-functional teams are a critical connecting structure for learning by doing. On such teams, business domain experts learn contemporary data techniques, while data experts gain a deeper understanding of the business context. This improves the quality of the solutions they develop together.

At Microsoft, leaders assembled a multidisciplinary team for a pilot project to investigate space utilization at a single headquarters building.⁶ The project team grew from representatives of Enterprise Data Science and the Real Estate and Facilities units to include members of Security, Human Resources, IT, and other business units that owned data or other expertise (e.g., legal, privacy) required for the effort. As the team integrated more data assets and became savvier at developing data-based solutions, novel applications emerged. Ultimately, this single team inspired applications that ranged from building optimization and dynamic HVAC management to campus security and parking garage optimization.

CULTIVATING USER MOTIVATION

Even with access and skills, employees may not want to engage with data. They may not see how data use helps them achieve their immediate work goals or believe they will be rewarded for its use. Motivation-promoting practices are

formal and informal mechanisms—such as monitoring use, offering incentives, and signaling by leadership—that encourage data asset engagement.

An effective connecting structure for fostering motivation is the use of embedded experts. An embedded data specialist does more than collaborate on data initiatives; they actively coach and mentor colleagues. This close relationship demystifies data and motivates employees' use of it by making data expertise both accessible and relevant to a unit's specific goals. BBVA, for instance, trained select employees in contemporary data science techniques.⁷ After completing the program, these employees returned to their business units to become embedded experts, supporting their colleagues and championing data-driven problem solving.

Motivation is also driven from the top. When leaders visibly champion data use and reward its application, they send a clear signal that it is a valued activity.

PROVIDING STRATEGIC GUIDANCE

Finally, data use must align with enterprise strategy to generate maximum value. Leaders must guide employees to use data assets in ways that help the organization achieve its most important goals.⁸ Our research shows the financial impact of this leadership focus: organizations that provide clear strategic guidance generate more than four times the share of revenue from data monetization—17 percent versus 4 percent—than those that do not. They are also over two-and-a-half times more likely to report that their data initiatives enhance their competitive advantage.

Organizations begin by communicating their strategy to help employees prioritize their time and attention. Other guidance practices include routinely tracing data benefits to an income statement line item, and implementing data lifecycle measurement, which links the lifecycle cost of data asset creation to financial returns.⁹ The connecting structure that best

6 B. H. Wixom, I. A. Someh, R. M. Ionescu, and D. E. Leidner, "Microsoft's AI Scaling Journey for Occupancy Prediction," MIT CISR Working Paper No. 453, February 2022, https://c isr.mit.edu/publication/MIT_CISRwp453_Microsoft_WixomSomehIonescuLeidner.

7 E. A. Martínez, J. Murillo Arias, F. Girardin, B. H. Wixom, and I. A. Someh, "BBVA Fuels Digital Transformation Progress with a Data Science Center of Excellence," MIT CISR Working Paper No. 430, April 2018, https://c isr.mit.edu/publication/MIT_CISRwp430_BBVADataScienceCoE_AlfaroMurilloGirardinWixomSomeh.

8 Making strategic use of data (assets) is often included as a core value in organizations' purpose statements. For more information, see N. van der Meulen and C. M. Beath, "Guiding Decentralized Decision-Making by Acting on Purpose," MIT CISR Research Briefing, Vol. XXIII, No. 10, October 2023, https://c isr.mit.edu/publication/2023_1001_PurposeinAction_VanderMeulenBeath.

9 For more detail, see B. H. Wixom, C. M. Beath, and J. Duane, "High-Performance Data Monetization," MIT CISR Research Briefing, Vol. XXIV, No. 11, November 2024, https://c isr.mit.edu/publication/2024_1101_HighPerformanceDataMonetization_WixomBeathDuane.

supports these practices is the Center of Excellence (CoE). A CoE coordinates data knowledge across the organization, setting standards, developing strategy, and ensuring that disparate efforts are moving in the same direction.

BBVA established a data science CoE and charged it with a strategic, three-part mission: co-creating high-value solutions with BBVA project teams, establishing new innovative data science capabilities, and leading a data-driven culture change.¹⁰ To ensure that new solutions were aligned with enterprise goals, the CoE developed a value framework to classify its portfolio of data projects according to their intended economic impact. It also created a Data Engines Catalog to standardize how machine learning applications were communicated across the bank. The CoE's success in coordinating data strategy was so significant that it ultimately led to the creation of a formal Data Office, reporting directly to the CEO.

CRAFTING AN ACTION PLAN FOR A THRIVING DATA DEMOCRACY

In a thriving data democracy, every employee can play a role in realizing value from data. Yet achieving this state requires deliberate, sustained management effort. Leaders cannot simply invest in data assets and expect a data democracy to emerge. They must actively cultivate the practices and build the connections that empower their entire workforce (see figure 1). For leaders ready to act, our research has identified four steps to take:

1. **Establish a baseline of data asset use.** Before investing in new initiatives, leaders must first understand the extent

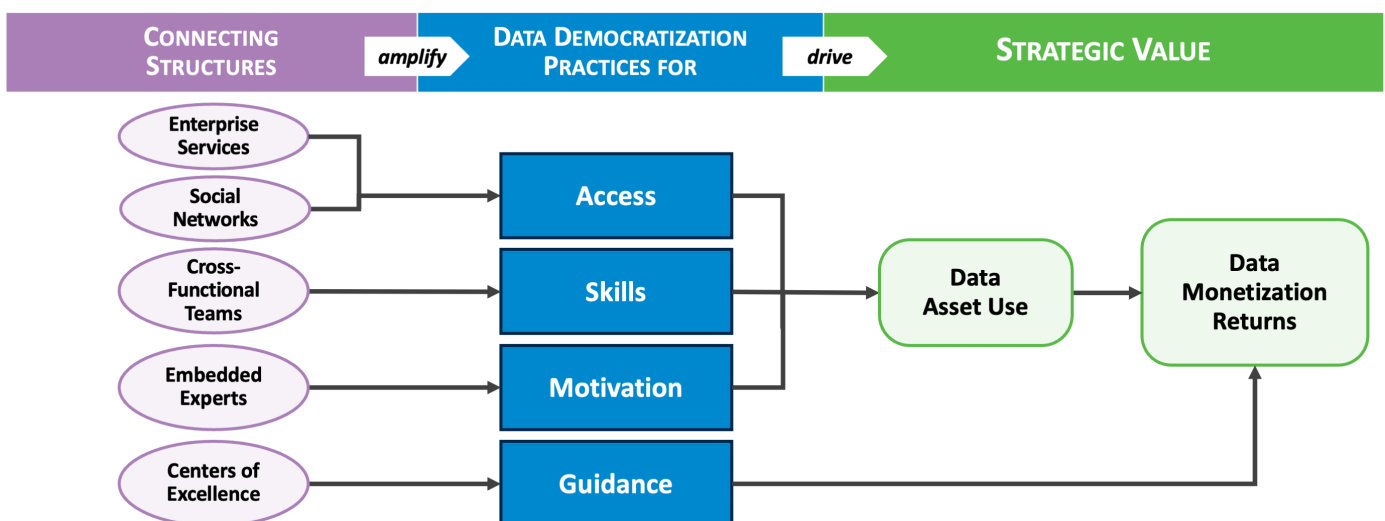
of data asset use in the business. An honest assessment is the necessary starting point. Leaders should ask: What percentage of our data is available to employees as reusable data assets? What percentage of employees typically make use of these assets?

2. **Identify data asset use gaps.** With a baseline established, diagnose the root cause of gaps by examining areas of strength and weakness. Can employees easily find and use data assets (do they have *access*)? Do they feel confident in their ability to solve problems with data (do they have *skills*)? Are they incentivized to do so (do they have *motivation*)? Do they clearly understand strategic priorities for data (do they have *guidance*)?
3. **Deploy connections as solutions.** Once specific practice gaps are identified, deploy connecting structures as targeted solutions. These connections are the mechanisms that amplify practices and scale their impact on data asset use. For example, if a lack of skills is the primary barrier, forming cross-functional teams can accelerate applied learning. If motivation is low, embedding experts within business units can provide hands-on support and build confidence.
4. **Measure and iterate.** Track the impact of these interventions on the percentage of employees actively using data assets as well as the financial return from data monetization initiatives. Use these insights to refine your approach and guide your next actions.

By taking these steps, leaders can close the costly gap between data asset availability and use. The systematic design of a data democracy fosters an agile workforce of enabled and empowered experts—the engine that translates data assets into financial returns.

10 Martínez, Murillo Arias, Girardin, Wixom, and Someh, “BBVA Fuels Digital Transformation Progress with a Data Science Center of Excellence.”

Figure 1: A Framework for Driving Strategic Value Through Data Democratization



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MIT CISR helps executives meet the challenge of leading increasingly digital and data-driven organizations. We provide insights on how organizations effectively realize value from approaches such as digital business transformation, data monetization, business ecosystems, and the digital workplace. Founded in 1974 and grounded in MIT's tradition of combining academic knowledge and practical purpose, we work directly with digital leaders, executives, and boards to develop our insights. Our consortium forms a global community that comprises more than seventy five organizations.

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