



AI IS EVERYBODY'S BUSINESS

Barbara H. Wixom, Principal Research Scientist
MIT Center for Information Systems Research (CISR)

Cynthia M. Beath, Professor Emerita
University of Texas, Austin

Today, everybody across the organization is hungry to know more about AI. What is it good for? Should I trust it? Will it take my job? Business leaders are investing in massive training programs, partnering with promising vendors and consultants, and collaborating with peers to identify ways to benefit from AI and avoid the risk of AI missteps. They are trying to understand how to manage AI responsibly and at scale.

Our book *Data Is Everybody's Business: The Fundamentals of Data Monetization* describes how organizations make money using their data.¹ We wrote the book to clarify what data monetization is (the conversion of data into financial returns) and how to do it (by using data to improve work, wrap products and experiences, and sell informational solutions). AI technology's role in this is to help data monetization project teams use data in ways that humans cannot, usually because of big complexity or scope or required speed. In our data monetization research, we have regularly seen leaders use AI effectively to realize extraordinary business goals. In this briefing, we explain how such leaders achieve big AI wins and maximize financial returns.

USING AI IN DATA MONETIZATION

AI refers to the ability of machines to perform human-like cognitive tasks.² Since 2019, MIT CISR researchers have been studying deployed data monetization initiatives that rely on machine learning and predictive algorithms, commonly referred to as predictive AI.³ Such initiatives use large data repositories to recognize patterns across time, draw inferences, and

predict outcomes and future trends. For example, the Australian Taxation Office (ATO) used machine learning, neural nets, and decision trees to understand citizen tax-filing behaviors and produce respectful nudges that helped citizens abide by Australia's work-related expense policies. In 2018, the nudging resulted in AUD\$113 million in changed claim amounts.⁴

In 2023, we began exploring data monetization initiatives that rely on generative AI.⁵ This type of AI analyzes vast amounts of text or image data to discern patterns in them. Using these patterns, generative AI can create new text, software code, images, or videos on their own, usually in response to user prompts. Organizations are now beginning to openly discuss data monetization initiative deployments that include generative AI technologies. For example, used vehicle retailer CarMax reported using OpenAI's ChatGPT chatbot to help aggregate customer reviews and other car information from multiple data sets to create helpful, easy-to-read summaries about individual used cars for its online shoppers. At any point in time, CarMax has on average 50,000 cars on its website, so to produce such content without AI the company would require hundreds of content writers and years of time; using ChatGPT, the company's content team can generate summaries in hours.⁶

Big advancements in machine learning, generative tools, and other AI technologies inspire big investments when leaders believe the technologies can help satisfy pent-up demand for solutions that previously seemed out of reach. However,

1 Barbara H. Wixom, Cynthia M. Beath, and Leslie Owens, *Data Is Everybody's Business: The Fundamentals of Data Monetization*, (Cambridge: The MIT Press, 2023).

2 See Hind Benbya, Thomas H. Davenport, and Stella Pachidi, "Special Issue Editorial: Artificial Intelligence in Organizations: Current State and Future Opportunities," *MIS Quarterly Executive* 19, no. 4 (December 2020).

3 This research draws on a Q1 to Q2 2019 asynchronous discussion about AI-related challenges with fifty-three data executives from the MIT CISR Data Research Advisory Board; more than one hundred structured interviews with AI professionals regarding fifty-two AI projects from Q3 2019 to Q2 2020; and ten AI project narratives published by MIT CISR between 2020 and 2023.

4 I. A. Someh, B. H. Wixom, and R. W. Gregory, "The Australian Taxation Office: Creating Value with Advanced Analytics," MIT CISR Working Paper No. 447, November 2020.

5 This research draws on two asynchronous generative AI discussions (Q3 2023, N=35; Q1 2024, N=34) regarding investments and capabilities and roles and skills, respectively, with data executives from the MIT CISR Data Research Advisory Board. It also draws on in-progress case studies with large organizations in the publishing, building materials, and equipment manufacturing industries.

6 Paula Rooney, "CarMax drives business value with GPT-3.5," CIO, May 5, 2023; Hayete Gallot and Shamim Mohammad, "Taking the car-buying experience to the max with AI," January 2, 2024, in Pivotal with Hayete Gallot, produced by Larj Media, podcast, MP3 audio.

there is a lot to learn about novel technologies before we can properly manage them. In this year's MIT CISR research, we are studying predictive and generative AI from several angles. This briefing is the first in a series; in future briefings we will present management advice specific to machine learning and generative tools. For now, we present three principles supported by our data monetization research to guide business leaders when making AI investments of any kind: invest in practices that build capabilities required for AI, involve all your people in your AI journey, and focus on realizing value from your AI projects.

Principle 1: Invest in Practices That Build Capabilities Required for AI

Succeeding with AI depends on having deep data science skills that help teams successfully build and validate effective models. In fact, organizations need deep data science skills even when the models they are using are embedded in tools and partner solutions; only then can their teams make informed decisions about how to incorporate AI effectively into work practices. We worry that some leaders view buying AI products from providers as an opportunity to use AI without deep data science skills; we do not advise this.

But deep data science skills are not enough. Leaders often hire new talent and offer AI literacy training without making adequate investments in building complementary skills that are just as important. Our research shows that an organization's progress in AI is dependent on having not only an *advanced* data science capability, but on having equally advanced capabilities in data management, data platform, acceptable data use, and customer understanding.⁷ Think about it. Without the ability to curate data (an advanced data management capability), teams cannot effectively incorporate a diverse set of features into their models. Without the ability to oversee the legality and ethics of partners' data use (an advanced acceptable data use capability), teams cannot responsibly deploy AI solutions into production.

It's no surprise that ATO's AI journey evolved in conjunction with the organization's Smarter Data program, which ATO established to build world-class data analytics capabilities, and that CarMax emphasizes that its governance, talent, and other data investments have been core to its generative AI progress.

Capabilities come mainly from learning by doing, so they are shaped by new practices in the form of training programs,

7 In the June 2022 MIT CISR research briefing, we described why and how organizations build the five advanced data monetization capabilities for AI. See B. H. Wixom, I. A. Someh, and C. M. Beath, "Building Advanced Data Monetization Capabilities for the AI-Powered Organization," MIT CISR Research Briefing, Vol. XXII, No. 6, June 2022.

policies, processes, or tools. As organizations undertake more and more sophisticated practices, their capabilities get more robust. Do invest in AI training—but also invest in practices that will boost the organization's ability to manage data (such as adopting a data cataloging tool), make data accessible cost effectively (such as adopting cloud policies), improve data governance (such as establishing an ethical oversight committee), and solidify your customer understanding (such as mapping customer journeys). In particular, adopt policies and processes that will improve your data governance, so that data is only used in AI initiatives in ways that are consonant with your organization's values and its regulatory environment.

Principle 2: Involve All Your People in Your AI Journey

Data monetization initiatives require a variety of stakeholders—people doing the work, developing products, and offering solutions—to inform project requirements and to ensure the adoption and confident use of new data tools and behaviors.⁸ With AI, involving a variety of stakeholders in initiatives helps non-data scientists become knowledgeable about what AI can and cannot do, how long it takes to deliver certain kinds of functionality, and what AI solutions cost. This, in turn, helps organizations in building trustworthy models, an important AI capability we call AI explanation (AIX).⁹

For example, at ATO, data scientists educated business colleagues on the mechanics and results of models they created. Business colleagues provided feedback on the logic used in the models and helped to fine-tune them, and this interaction helped everyone understand how the AI made decisions. The data scientists provided their model results to ATO auditors, who also served as a feedback loop to the data scientists for improving the model. The data scientists regularly reported on initiative progress to senior management, regulators, and other stakeholders, which ensured that the AI team was proactively creating positive benefits without neglecting negative external factors that might surface.

Given the consumerization of generative AI tools, we believe that pervasive worker involvement in ideating, building, refining, using, and testing AI models and tools will become even more crucial to deploying fruitful AI projects—and building trust that AI will do the right thing in the right way at the right time.

8 Ida Someh, Barbara Wixom, Michael Davern, and Graeme Shanks, "Configuring Relationships between Analytics and Business Domain Groups for Knowledge Integration," *Journal of the Association for Information Systems* 24, no. 2 (2023): 592-618.

9 Ida Someh, Barbara H. Wixom, Cynthia M. Beath, and Angela Zutavern, "Building an Artificial Intelligence Explanation Capability," *MIS Quarterly Executive* 21, no. 2 (2022).

Principle 3: Focus on Realizing Value From Your AI Projects

AI is costly—just add up your organization’s expenses in tools, talent, and training. AI needs to pay off, yet some organizations become distracted with endless experimentation. Others get caught up in finding the sweet spot of the technology, ignoring the sweet spot of their business model. For example, it is easy to become enamored of using generative AI to improve worker productivity, rolling out tools for employees to write better emails and capture what happened in meetings. But unless those activities materially impact how your organization makes money, there likely are better ways to spend your time and money.

Leaders with data monetization experience will make sure their AI projects realize value in the form of increased revenues or reduced expenses by backing initiatives that are clearly aligned with real challenges and opportunities. That is step one. In our research, the leaders that realize value from their data monetization initiatives measure and track their outcomes, especially their financial outcomes, and they hold someone accountable for achieving the desired financial returns. At CarMax, a cross-functional team owned the mission to provide better website information for used car shoppers, a mission important to the company’s sales goals. Starting with sales goals in mind, the team experimented with and then chose a generative AI solution that would enhance the shopper experience and increase sales.

MANAGING AI USING A DATA MONETIZATION MINDSET

AI has and always will play a big role in data monetization. It’s not a matter of whether to incorporate AI, but a matter of how to best use it. To figure this out, quantify the outcomes of some of your organization’s recent AI projects. How much money has the organization *realized* from them? If the

answer disappoints, then make sure the AI technology value proposition is a fit for your organization’s most important goals. Then assign accountability for ensuring that AI technology is applied in use cases that impact your income statements. If the AI technology is not a fit for your organization, then don’t be distracted by media reports of the AI du jour.

Understanding your AI technology investments can be hard if your organization is using AI tools that are bundled in software you purchase or built for you by a consultant. To set yourself up for success, ask your partners to be transparent with you about the quality of data they used to train their AI models and the data practices they relied on. Do their answers persuade you that their tools are trustworthy? Is it obvious that your partner is using data compliantly and is safeguarding the model from producing bad or undesired outcomes? If so, make sure this good news is shared with the people in your organization and those your organization serves. If not, rethink whether to break with your partner and find another way to incorporate the AI technology into your organization, such as by hiring people to build it in-house.

To paraphrase our book’s conclusion: When people actively engage in data monetization initiatives *using AI*, they learn, and they help their organization learn. Their engagement creates momentum that initiates a virtuous cycle in which people’s engagement leads to better data and more bottom-line value, which in turn leads to new ideas and more engagement, which further improves data and delivers more value, and so on. Imagine this happening across your organization as all people everywhere make it their business to find ways to use AI to monetize data.

This is why AI, like data, is everybody’s business.

Figure 1: Three Principles for Getting Value from AI Investments

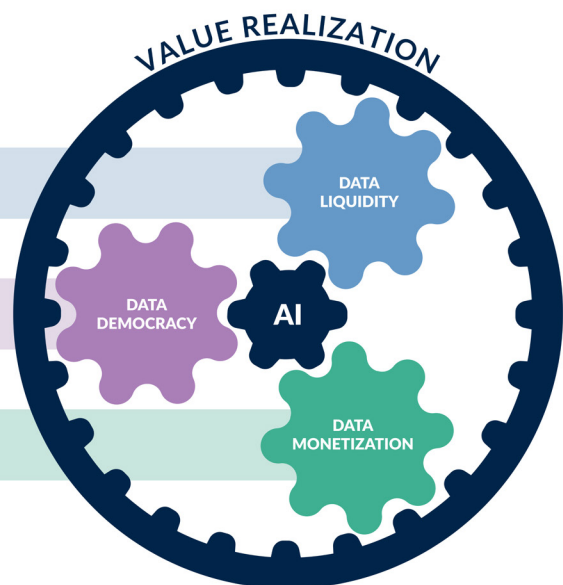
The three principles are based on the following concepts from MIT CISR data research:

1. **Data liquidity:** the ease of data asset recombination and reuse
2. **Data democracy:** an organization that empowers employees in the access and use of data
3. **Data monetization:** the generation of financial returns from data assets

Principle 1: Build capabilities

Principle 2: Involve everybody

Principle 3: Realize value



MIT CENTER FOR INFORMATION SYSTEMS RESEARCH (CISR)

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.

CISR RESEARCH PATRONS

AlixPartners
Avanade
Axway, Inc.
Collibra
IFS
Pegasystems Inc.
The Ogilvy Group

CISR SPONSORS

Alcon Vision
Amcor
ANZ Banking Group (Australia)
AustralianSuper
Banco Bradesco S.A. (Brazil)
Banco do Brasil S.A.
Bank of Queensland (Australia)
Barclays (UK)
BlueScope Steel (Australia)
BNP Paribas (France)
Bupa (Australia)
CarMax
Caterpillar, Inc.

Cemex (Mexico)
Cencora
Cochlear Limited (Australia)
Commonwealth Superannuation Corp. (Australia)
Cuscal Limited (Australia)
CVS Health
Dawn Foods
DBS Bank Ltd. (Singapore)
Doosan Corporation (Korea)
Fidelity Investments
Fomento Economico Mexicano, S.A.B., de C.V.
Fortum (Finland)
Genentech
Gilbane Building Company
Johnson & Johnson (J&J)
Kaiser Permanente
King & Wood Mallesons (Australia)
Koç Holding (Turkey)
Mercer
Nasdaq, Inc.
NN Insurance Eurasia NV
Nomura Holdings, Inc. (Japan)

Nomura Research Institute, Ltd. Systems Consulting Division (Japan)
Novo Nordisk A/S (Denmark)
OCP Group
Pacific Life Insurance Company
Posten Bring AS (Norway)
Principal Life Insurance Company
QBE
Ramsay Health Care (Australia)
Raytheon Technologies
Scentre Group Limited (Australia)
Schneider Electric Industries SAS (France)
Stockland (Australia)
TabCorp Holdings (Australia)
Telstra Limited (Australia)
Terumo Corporation (Japan)
Tetra Pak (Sweden)
Truist Financial Corporation
UniSuper Management Pty Ltd (Australia)
Uniting (Australia)

USAA
Webster Bank, N.A.
Westpac Banking Corporation (Australia)
WestRock Company
Wolters Kluwer
Xenco Medical
Zoetis Services LLC

CISR ASSOCIATE MEMBERS

MIT CISR wishes to thank all of our associate members for their support and contributions.

MIT CISR is funded by our members, and we gratefully acknowledge their financial support and their many contributions to our work.

Membership and benefits: cistr.mit.edu/content/member-benefits

MIT CISR research publications: cistr.mit.edu/research-library



MIT Sloan School of Management
Center for Information Systems Research

245 First Street, E94-15th Floor
Cambridge, MA 02142

t 617-253-2348 | e cistr@mit.edu

cistr.mit.edu |  

Team | Isobela Byerly-Chapman, Margherita Di Pinto, Christine G. Foglia *Associate Director*, Dorothea Gray-Papastathis, Cheryl A. Miller, Ina M. Sebastian, Alan Thorogood, Nick van der Meulen, Austin Van Groningen *Engagement Director*, Peter Weill *Chairman*, Barbara H. Wixom, Stephanie L. Woerner *Director*