Speaker 1: Welcome to the MIT CISR Research Briefing series. The center for information systems research is based at the Sloan School of Management at MIT. We study digital transformation.

Barb Wixom: Hi, I’m Barb Wixom, a principal research scientist with MIT CISR. Today I’m pleased to share with you the May 2024 research briefing that I co-authored with Cynthia Beath—

AI Is Everybody’s Business

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. 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. 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. 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, or 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 113 million Austrailian dollars in changed claim amounts.

In 2023, we began exploring data monetization initiatives that rely on generative AI. 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, 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.

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, 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 to 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, including to evaluate their risks; 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 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. 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, 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. 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 (or AIX).

For example, at the 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.

## 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 challeges 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.

# 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 are 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.

Speaker 1: Thanks for listening to this reading of MIT CISR research, and thanks to the sponsors and patrons who support our work. Get free access to more research on our website at cisr.mit.edu.