



WHAT IS DATA MONETIZATION?

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

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

Leslie Owens, *Industry Research Fellow*, MIT CISR

On September 26, 2023, MIT Press will release our new book, *Data Is Everybody's Business: The Fundamentals of Data Monetization*, which we wrote to eliminate confusion regarding what data monetization is and how to do it. This book, in true MIT fashion, cuts through hype and confusion by defining terms, presenting easy-to-use managerial frameworks, and focusing people on what is doable and necessary. It reflects years of research conducted at MIT CISR, as well as significant input and oversight by the MIT CISR Data Research Advisory Board. It describes why *everybody* in the organization should get excited about data monetization, and how to participate.¹

Many organizations view data monetization—or simply put, converting data into money—too narrowly as “selling data sets” or too broadly as “creating benefits from data use.” In

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fact, there are three viable ways to monetize data—improving work, wrapping products, and selling information offerings; the book covers when to pursue each and how to succeed.

Your organization is likely engaged in one, two, or all three of these monetization approaches. But is it consistently accounting for the money generated by working with data? The processes of value creation and value realization are different; value realization *confirms* that data monetization has occurred. An organization that is adept at creating value from

data might look and feel like a high-performing money-making machine. But it's a mistake to assume that benefits flow inexorably to the bottom line. It's the act of transforming the value created by data initiatives into real money—by bringing more money in or putting less money out—that makes data monetization real.

VALUE CREATION AND VALUE REALIZATION: RECOGNIZE THE DIFFERENCE

To begin monetizing data, organizations first must *create value* with data, and they certainly do, every day. As organizations use data to fix processes and provide services, they generate benefits—efficiency, productivity, speed to market, customer and employee satisfaction, brand capital, desired product enhancements, streamlined processes, revenue streams, and citizen welfare.

To **create value from data** requires that a person or a system take some action involving data. For example, rather than waiting until weather conditions cause delays that adversely impact flight operations, airlines create value from data by checking weather forecasts, using them to predict flight delays, and then automatically adjusting passengers' travel itineraries as necessary.

To **realize value from data** requires that created value contributes to the organization's bottom line. Airlines manage the impact of weather on flight operations to minimize the overtime pay and customer refunds that are a consequence of delays and cancellations. The data monetization returns in these cases are the reduction in the overtime pay and customer refunds the airline owes thanks to data-powered rebooking processes. The returns also include increased sales from delighted passengers who spend more with the airline because of delay-free experiences.

Data monetization requires different actions on the part of the organization, depending on whether the organization is using data to improve, wrap, or sell. The following sections describe the distinct value realization requirements for each of the three data monetization approaches.

1 The research underpinning the authors' forthcoming book and this research briefing began with Barb Wixom's PhD dissertation. Since 1994, Dr. Wixom has explored how organizations effectively deliver value from their data assets. In 2015, she launched the MIT CISR Data Research Advisory Board, a community of data and analytics leaders who participate in and inform MIT CISR research; their contributions were key to the research. For more, see Barbara H. Wixom, Cynthia M. Beath, and Leslie Owens, *Data Is Everybody's Business: The Fundamentals of Data Monetization*, (Cambridge: The MIT Press, 2023), <https://mitpress.mit.edu/9780262048217/data-is-everybodys-business/>.

Value Realization from Improving



IMPROVING

Value realization from improving is a two-step process—it entails first making work better, cheaper, and/or faster in a way that creates benefits for the organization, and then turning those benefits into financial value. The airline example above was monetizing data by improving. With improving initiatives, the first step of creating value (e.g., proactively changing customers' reservations based on weather data) is separate from the second step, realizing value (e.g., reducing overtime pay). It takes organizational attention, resources, and discipline to squeeze financial value from improvement initiatives.

For example, at Microsoft, financial analysts used new tools to analyze data to assist sales personnel, reducing data-gathering time for financial analysts by 30 percent within fifteen months. That's step one—value creation—and it is inherently valuable; the crucial second step occurs when that time savings gets turned into money. Leveraging the time saved, Microsoft re-directed the analysts to the more valuable activity of working with sales partners, translating the slack² created by new, more efficient work into an increase in sales. Notably, an organization may realize some of the value that an improving initiative creates as reduced costs and some as increased revenues.

Some complications make it hard to turn efficiencies into money. A work improvement may create efficiencies in a downstream process where the process owner has no urge to cut costs. Or slack created by an improvement may be used to relieve the workload of stressed employees instead of cutting costs. Or efficiencies may show up in increased production; higher quality products; or fewer discounts and markdowns, where value is realized only if and when the products are sold. Ultimately, if an improvement is supposed to reduce costs or budgets and those don't change, data is not being monetized.

Value Realization from Wrapping



WRAPPING

A wrapping data monetization initiative delivers a product enhancement that customers value. To realize some of that value, the owner of the product must increase the product's price to reflect its higher value, sell more of the product, sell more related offerings, or pursue a combination of these. In the case of non-commercial organizations, the owner of the product might ask citizens or funders to pay fees or give more. Any of those outcomes will allow additional revenues to flow to the

income statement (or to the budget, in the case of non-commercial scenarios). But too often, organizations assume that they are realizing value—without verifying whether and how much money hits their books.

As with improving, realizing value from wrapping takes organizational attention, resources, and discipline. It requires that organizations first understand what kind of value and how much of it customers create for themselves because of the wrap, and how much their willingness to pay grows because of that value. For example, will customers pay more for a health device that sends tailored alerts to their phone? Product owners responsible for a wrap might charge for it, or use it to gain new customers, sell more to current customers, sell more of other products, or retain customers who might otherwise defect. A product owner whose performance is measured by product adoption, churn rate, or Net Promoter Score may be reluctant to ask customers to pay more for an enhanced product. But if the additional value from wrapping a product is not eventually extracted from customers, the data monetization initiative will not contribute to the organization's bottom line,³ and the initiative cannot claim to have monetized data.

There are other complications: A wrap may deliver internal efficiencies in addition to customer value. For example, a side effect of a good wrap might be a reduction in calls to the customer service desk. Or an equipment wrap that preemptively schedules preventive maintenance might reduce the need for emergency services during off-hours. To realize value arising from the more efficient use of people or any other resource, someone needs to remove or redirect slack, just like with improvement initiatives, so that the savings can flow to the bottom line. If such resources belong not to the product owner but to other functions and departments, getting those efficiencies to the bottom line will require cooperation from the heads of those units. Removing slack can be political—that's why everybody in the organization must be inspired to participate in data monetization.

Value Realization from Selling



SELLING

With selling, data in some form is exchanged for money. Retailers have sold their point-of-sale transaction data to companies such as IRI since the late 1970s.⁴ IRI, in turn, sold aggregated data and analytics

2 Slack is the resources an organization has available that exceed what it needs to sustain routine operations.

3 Jitendra V. Singh, "Performance, Slack, and Risk Taking in Organizational Decision Making," *The Academy of Management Journal* 29, no. 3 (1986): 562–585; L. J. Bourgeois III, "On the Measurement of Organizational Slack," *The Academy of Management Review* 6, no. 1 (1981): 29–39.

4 Richard Kreisman, "Buy The Numbers," *Inc.*, March 1, 1985, <https://www.inc.com/magazine/19850301/6488.html>.

to manufacturers (and back to the retailers) that wanted to better understand their product sales compared to those of their competitors.⁵ Now non-data companies are disrupting the information business industry by selling solutions based on their vast data assets. For example, Walmart now sells an information solution called Walmart Luminate, which offers data free of charge to suppliers to help them work with merchants to grow their business. The solution offers insights regarding channel performance, shopper behavior, and customer perception for a fee.⁶

Organizations can sell data, insights, and action, all of which are information offerings.⁷ Information offerings are typically priced starting with a careful analysis of how much value they create for the customer. When an organization sets a price—and customers pay it—data monetization has occurred.

As with wraps, an information offering cannot be priced beyond its value to the customer, at least not for long. Therefore, pricing requires deep customer understanding. Organizations that sell information offerings often cocreate solutions with a few customers and monitor use to establish fruitful pricing. Some organizations provide consulting services to customers to gain an insider view of the customer experience. Others establish value-sharing agreements with customers whereby they take on the costs and risk of providing an information offering for a customer in return for some percentage of value gained by the customer (and a front-row seat in the data value-creation process).

Ultimately, organizations that monetize data by selling develop a firm grasp of customer value creation and then set a goal of how much of the created value they plan to realize. Healthcare data and analytics provider Healthcare IQ priced data assets and tools based on its analysis that a \$100 million hospital would experience at least \$8 million in price savings from their use. Travel spend management solution provider

TRIPBAM⁸ priced offerings based on its estimate that customers would achieve 2–3 percent in overall savings on total travel spend.

USE DATA TO IMPROVE THE BOTTOM LINE

Data monetization is the act of turning data into money. It should be like every other day-to-day activity you perform to do your job. It is not intrinsically ethical or unethical; it is a feasible and necessary activity for any organization, including charities, government, and schools. It would be irresponsible for an organization not to exploit its mounting, costly data investments for financial gain. That would be akin to it underutilizing its talent, facilities, or equipment.

Try to quantify the outcomes of some of your organization's recent data monetization initiatives. What kinds of value and how much value has the organization created *and realized* from improving, wrapping, and selling initiatives over the last three years? Did the initiatives achieve the bottom-line returns that were expected? Were the right people held accountable for managing the risks and outcomes of these initiatives?

It's the act of transforming the value created by data initiatives into real money—by bringing more money in or putting less money out—that makes data monetization real.

We believe that everyone should engage in data monetization, so if the questions above feel too abstract to answer, then start or join a team that is working on an improving, wrapping, or selling initiative. There is no better way to develop an intimate awareness of the challenges of pushing money to the bottom line.

5 Adam Kivel, "IRI and the Hub of the Data Ecosystem," *Sync*, September 21, 2017, <https://sync-magazine.com/2017/iri-andrewappel>.

6 Mark Hardy, "Walmart Luminate Introduces Basic Package Free of Charge to Suppliers," Walmart Corporate News and Information, October 12, 2022, <https://corporate.walmart.com/newsroom/2022/10/12/walmart-luminate-introduces-basic-package-free-of-charge-to-suppliers>.

7 A. Buff, B. H. Wixom, and P. P. Tallon, "Foundations for Data Monetization," MIT CISR Working Paper No. 402, August 17, 2015, https://c isr.mit.edu/publication/MIT_CISRwp402_FoundationsForDataMonetization_BuffWixomTallon.

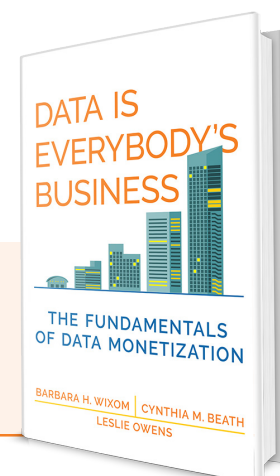
8 Emburse, a provider of expense management and accounts payable automation solutions, acquired TRIPBAM in July 2023; see "Emburse Acquires TRIPBAM to Extend Leadership in Business Travel Spend Management," Emburse, July 19, 2023, <https://www.emburse.com/company/news/emburse-acquires-tripbam>.

Learn more about why *everybody* in the organization should get excited about data monetization in

Data Is Everybody's Business: The Fundamentals of Data Monetization

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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,
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