



BUILDING DATA MONETIZATION CAPABILITIES THAT PAY OFF

Barbara H. Wixom, *Principal Research Scientist*

MIT Sloan Center for Information Systems Research (CISR)

Killian Farrell, *Master of Business Analytics Candidate, Class of 2020*

MIT Sloan, Operations Research Center

Data monetization strategies include some combination of three moneymaking approaches:

1. **Improving** core business processes using data—making money from doing things better, cheaper, and faster
2. **“Wrapping”** analytics around offerings—making money by distinguishing offerings with features and experiences
3. **Selling** information solutions—making money by deploying new information offerings

MIT CISR research has identified that companies need five enterprise capabilities—a **data asset**, a **data platform**, **data science**, **acceptable data use**, and **customer understanding**¹—to execute data monetization strategies. Building these capabilities, however, is not easy; our research found that the capabilities companies have in place today are ... average.² In this briefing we explain why you need to be persistent and purposed for your data monetization capabilities to pay off.

BE PERSISTENT

Many companies have been trying to make money from their data for years. Rest assured—the research shows that *data monetization capabilities are evolutionary*.³ The capabilities become stronger as companies master sequences of practices over time, with more advanced practices building on foundational predecessors (see figure 1). Consider data science: Companies first become proficient at basic reporting, dashboards, and visualization; next they learn and scale out statistical techniques and approaches; then they explore machine learning and specialized analytics like natural language processing and edge analytics. This progression establishes

1 MIT CISR 2018 Data Monetization Survey (N=315). Firms split into distinct top (N=146) and bottom (N=105) performers on data monetization metrics (operational efficiencies created, increased prices/sales, direct revenues generated). All five capabilities were significantly higher for top performers, $p < .0001$.

2 Ibid. Response means for capability development fell between 2=“somewhat poorly developed and 3=“of average development”; the full scale ranged from 0=“no development” to 5=“very well developed.”

3 Ibid. Within respondent analysis, advanced practices occurred significantly more often when less advanced practices had top-tier scores, $p < .0001$.

organizational readiness—i.e., skills, understanding, and acceptance—for increasingly complex data science activities.

THE CASE OF MICROSOFT

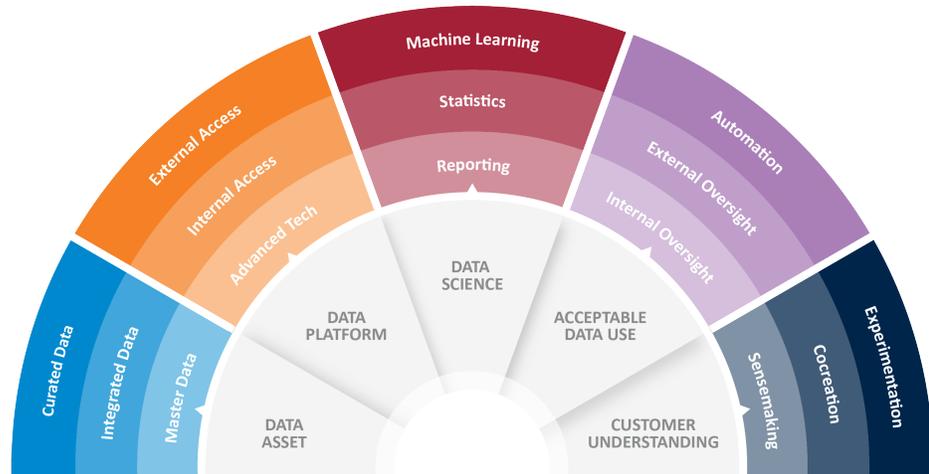
In 2014, Satya Nadella became CEO of Microsoft and began accelerating the company’s transformation to cloud services.⁴ The transformation required dramatic enterprise-wide interventions, including organizational redesign, new performance metrics, changed incentives, and business process reengineering. Nadella regularly and widely promoted data-driven work practices as a key way to help accomplish Microsoft’s transformation objectives. For Sales, this prompted leaders to set an objective to establish a new, analytics-informed workflow for salespeople, with a goal to increase time spent with customers by 30 percent—1.5 days per week.

Initially, Sales defined key terms (e.g., a “lead”) and established standards for data that resided in over thirty disparate systems (data asset: **master data**). The team leveraged Microsoft Azure cloud technology to create a single data platform called the Microsoft Sales Experience, which supported salespeople situated around the globe (data platform: **advanced tech, internal access**). The team also built dashboards and assembled them into workflows that were tailored to sales personas, such as sales managers, executives, and support staff (data science: **reporting**). These tailored workflows helped each persona distinctly engage in services sales activities in more knowledgeable, effective ways (customer understanding: **sensemaking**), and individual usage of the dashboards was monitored to enable better utilization through training and incentives (acceptable data use: **internal oversight**). All of these changes contributed to salespeople spending less time on engagement preparation, engagement wrap-up, and the creation of sales opportunities (the time required to create

4 I. A. Someh and B. H. Wixom, “Microsoft Turns to Data to Drive Business Success,” MIT CISR Working Paper No. 419, July 2017; “Transforming sales: Microsoft removes obstacles and gives back time with Dynamics 365,” Microsoft IT Showcase, April 5, 2018, <https://www.microsoft.com/en-us/itshowcase/transforming-sales-microsoft-removes-obstacles-and-gives-back-time-with-dynamics-365>.

Figure 1: Data Monetization Capabilities Are Evolutionary

In this diagram, data monetization capabilities are represented by the grey segments and practices by the colored bands. Companies evolve data monetization capabilities, with more advanced practices building on foundational predecessors.



these dropped from twelve to three minutes per opportunity). Sales realized tremendous salesforce productivity gains by achieving its goal to free up administrative time for salespeople, in effect increasing its sales capability by 30%.

It's important to note that in 2014, Microsoft's data monetization capability journey focused on the essentials. Regarding data monetization, the company was starting anew because of its aggressive and dramatically different future business state goals. Thus, areas like Sales established capability basics and worked hard to get them right before moving on to more advanced practices.

BE PURPOSED

Our research findings also indicate that **data monetization capabilities are approach-specific**.⁵ When we compared top- and bottom-performing companies in improving, wrapping, and selling, we discovered that the four practices most associated with great results varied with each approach; this makes sense, considering that improving, wrapping, and selling each place unique demands on an organization. For example, companies focused on improving pervasively arm employees with dashboards and visualizations that reflect accurate data about core business processes, so that the employees can formulate better decisions and new work practices. As a result, top improving companies distinguish themselves from bottom performers by using (figure 2.1):

- Great **master data** (about operations)
- **Internal access** to data
- **Reporting**
- **Internal oversight** of data

Companies focused on wrapping deliver dashboards and visualizations about customer demographics, product use, sentiment, relationships, and company interactions to external-facing workgroups that sense core and latent customer needs and inform product development and management activities. As a result, top wrapping companies distinguish themselves from bottom performers by using (figure 2.2):

- Great **master data** (about customers)
- **Internal access** to data
- **Reporting**
- Customer **sensemaking**

Finally, companies focused on selling identify marketplace problems that can be solved using information, commercialize the solutions, and then deploy, service, and continuously adjust the solutions in ways that protect competitive advantage. As a result, top selling companies distinguish themselves from bottom performers by using (figure 2.3):

- **External access** to platforms
- **Machine learning**
- Controls on **automation**
- **Cocreation** with customers, start-ups, and other partners

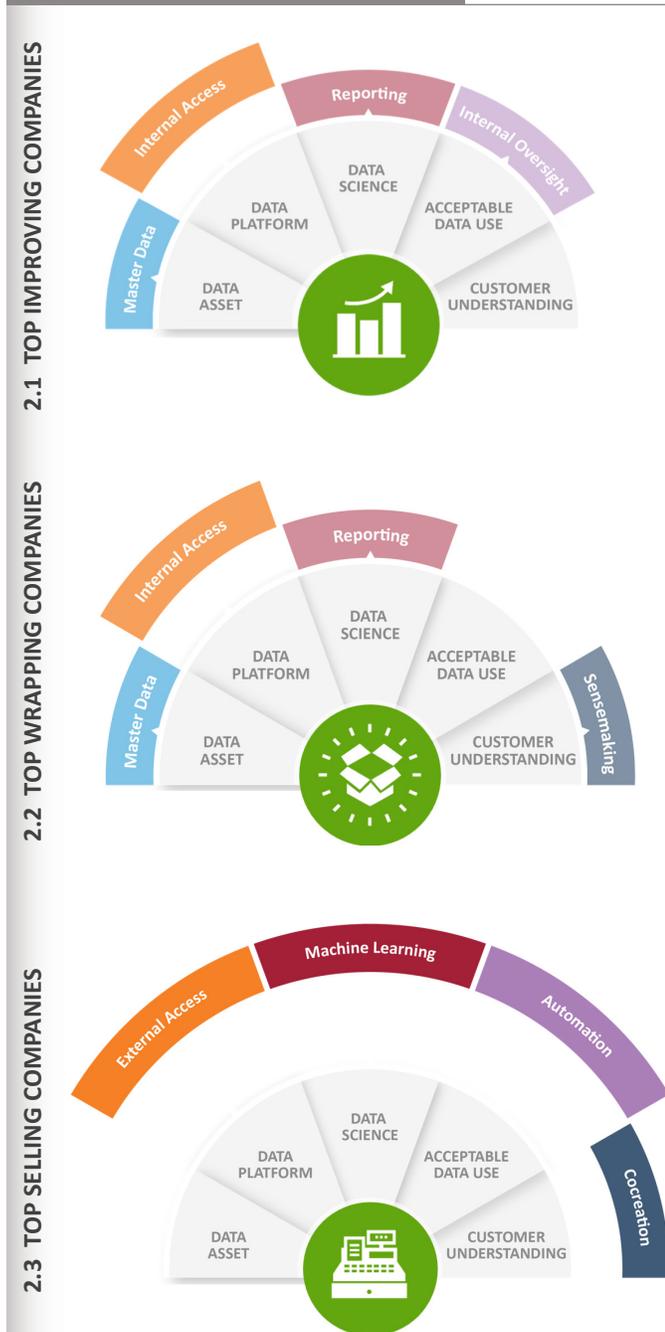
THE CASE OF BBVA

In 2011, BBVA explored how to exploit financial big data and cocreated a variety of promising use cases through social good partnerships (customer understanding: **cocreation**).⁶ Using over four million anonymized BBVA credit card transactions, one use case helped city planners create strategies to stimulate economic growth, and another use case helped governments decide how and where to deploy aid response after natural disasters. In February 2014, BBVA established a

⁵ MIT CISR 2018 Data Monetization Survey (N=315). The sample was split into the distinct performers and non-top performers in improving (N=198), wrapping (N=213), and selling (N=198). Logistic regression analyses identified four practices that drove top performers for each approach; results were significant at $p < .05$.

⁶ E. Alfaro, J. Murillo, F. Girardin, B. H. Wixom, and I. A. Someh, "BBVA Fuels Digital Transformation Progress with a Data Science Center of Excellence," MIT Sloan CISR Working Paper No. 430, April 2018.

Figure 2: Data Monetization Capabilities Are Approach-specific



wholly owned subsidiary called BBVA Data & Analytics (D&A) to deliver for-fee data services; the subsidiary was purposefully separated from the incumbent bank for reasons such as the need to shield the new entity from unnecessary regulation and to attract data scientists.

The organizational separation was also intended to incubate new, unique practices and build data monetization capabilities that were required for D&A to succeed in selling. This included

developing machine learning algorithms and other advanced data science techniques for activities such as classifying transactions, recommending products, and comparing transactional behaviors. In 2016 alone, D&A introduced thirty-four new analytics into production (data science: **machine learning**). D&A also established an open source, cloud-based, API-enabled data platform that could effectively deliver data services as commercial offerings (data platform: APIs for **external access**). The platform evolved over time; today, some of the early data services have progressed to contribute to BBVA's API market⁷ where customers self-serve from a number of online informational solutions (acceptable data use: **automation**).

It's important to note that after the BBVA subsidiary established capabilities that enabled it to effectively deploy marketplace solutions, it began working with BBVA to build bank-wide capabilities that would help improve BBVA business functions. The subsidiary collaborated with Engineering and other bank groups to incrementally establish foundational data monetization practices, such as an internal shared data platform and reusable algorithms.

MAXIMIZE DATA MONETIZATION PAYOFF

As companies better appreciate the evolutionary and approach-specific nature of data monetization capabilities, they can strategically invest in data monetization capabilities. Our research found that getting monetization capabilities right really pays off. Companies that achieve top performance in returns from improving, wrapping, and selling have better data monetization capabilities than bottom performers: data asset (+55%), data platform (+83%), data science (+63%), acceptable data use (+61%), and customer understanding (+47%).⁸ In fact, top performers increase monetization outcomes by a factor of 2.5 in comparison to their bottom-performing peers.

Over time, companies advance their data monetization capabilities, which in turn leads to better improving, wrapping, and selling—a positive cycle of deeper and broader data monetization. In the future, we envision that companies will engage in business activities that synergistically produce evidence-based, customer-centric, informational services to make money in a competitive manner. We can get there—with persistence and purpose.

⁷ "PayStats," BBVA API Market website, <https://www.bbvaapimarket.com/products/paystats>.

⁸ MIT CISR 2018 Data Monetization Survey (N=315). Firms split into distinct top (n=146) and bottom (n=105) performers on data monetization metrics (operational efficiencies created, increased prices/sales, direct revenues generated). Percentages show significant increases in capabilities from bottom to top performers, $p < .0001$.

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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 c isr@mit.edu

c isr.mit.edu |  

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