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Over the past five years, the world has witnessed an unprecedented explosion of digitized data, which is often referred to as "big data." Its potential remains alluring—and largely untapped. The data opportunity is like a diamond mine, mostly littered with rocks and dirt, but with enough gems peeking out to attract those unafraid of the hard work needed to sift through it.

Unlocking the potential inherent in all this data, structured and unstructured, internal and external, demands that companies set clear goals for how the data will be used—whether for optimizing the supply chain, developing closer relationships with customers and partners, predicting and reacting quickly to market shifts, or identifying areas for operational improvements and better accuracy of reporting. And they must decide on how it is to be collected, analyzed, and acted on.

But setting such priorities is not enough. To succeed in this complex endeavor, companies must also define the right organizational structure for managing the data effort—one that can effectively align the demands of the business with the technological requirements needed to support those demands. That's a tough challenge that requires unprecedented cooperation across traditional functional and business unit boundaries.

Given the cross-functional challenges, rich potential, and inherent dependency on complex technology, the question of who should own the data has become a hotly contested topic. In an online survey of more than 500 business intelligence professionals, respondents were evenly divided among three possible scenarios—that IT should take the lead, that the business should, or that a matrix organization should be created, bringing together the expertise of both (*see Exhibit 1*). (There is, of course, a fourth possibility—that the company has no clear data strategy at all—an arrangement to be found at far too many companies.)

1. IT should lead. The IT department seems an obvious choice for driving a company's big data efforts. It is best suited to ensure compliance with enterprise architecture, consistency of tool selection, the proper use of technical resources, and overall operational efficiency. The IT-led setup has a number of potential pitfalls, however. All too often, IT organizations lack the level of familiarity with business strategy and operations required to prioritize and address critical business needs. As a result, companies can lose sight of the business motives driving the effort and instead get bogged down in trying to find the perfect technology solution.

2. The business should lead. Giving authority for data efforts to a functional business group such as finance or marketing can ensure a higher degree of alignment with business priorities and increase the likelihood that the needs of individual business units can be

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met quickly. But such teams may not understand—and thus may not be able to leverage—the IT assets and capabilities the company possesses or be sufficiently familiar with new data-related technologies. As a result, companies may find themselves building analytical systems that are not architecturally sound, that reproduce capabilities already existing elsewhere in the organization, or that meet the needs of just one business or functional unit.

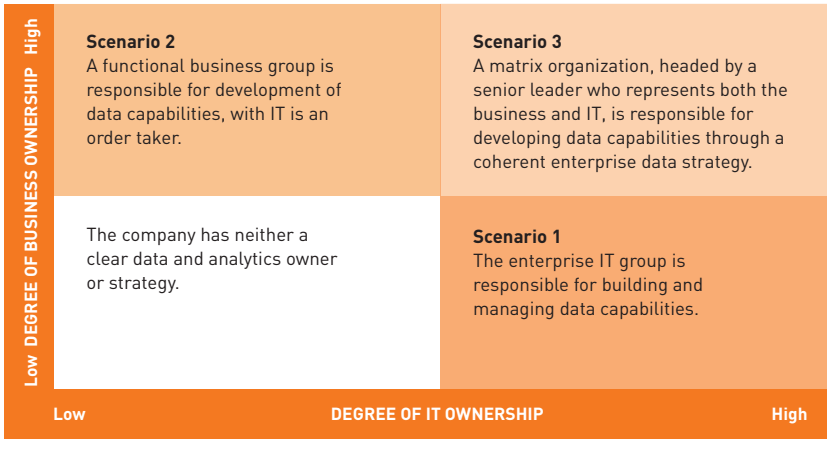
3. The matrix. Both of the first two models have their advantages, and for some companies one of them might be the way to go—perhaps because of specific cultural or historical circumstances, or because of the nature of their industry. But most companies will find that the best approach combines the strengths of each into a matrix organization, whose senior leader represents both business and IT stakeholders and is responsible for developing data capabilities through a coherent company-wide strategy.

Under this arrangement, people from business functions and IT come together to define specific data capabilities required to achieve the company's business goals. Those from the business function help with identifying requirements, prioritizing analytics requests from various business units, and formulating questions the data can help answer. Meanwhile, those from IT help define the most effective ways of sourcing the data, while ensuring its relevance, availability, accuracy, and adherence to an architectural vision. IT also takes on the role of thought leader and trusted advisor in determining whether a new tool or architectural enhancement is required to effectively accommodate new information requests.

The matrix approach does have its challenges. Although it solves the problem of how to balance the concerns of both the business and IT, the matrix approach requires a high degree of organizational focus and a commitment to developing new data capabilities at the highest levels in the organization. These include IT capabilities such as the design, development, and support of centralized data hubs, and the ability to identify and integrate external sources of data. Business-side capabilities include the ability to set clear priorities for what data will be gathered and how it will be analyzed and used, and a strong governance mechanism for determining who sets those priorities under various circumstances.

As advantageous as the matrix model can be, it often comes with a

Exhibit 1: **Three Data and Analytics Operating Models**



Source: Booz & Company

More Than One Right Model

The best way to structure a matrix organization depends on the nature of each company and the industry and markets in which it operates. The following examples demonstrate two matrix approaches to data ownership.

Consumer packaged goods. A longtime leader in its industry, the first company we studied had lost some of the edge in its vaunted sales and marketing capabilities. So it committed to refreshing them through a more robust focus on the use of data, both internal and external, setting specific objectives and targets to improve performance, starting with sales.

The company began by setting up a cross-functional team led by sales and supported by finance and IT, while selectively turning to various outside partners to fill in any capabilities gaps. The sales organization was the natural choice for leading the initiative. It has visibility into the completeness of sales data and the deep business understanding required to ensure its integrity and fidelity across the sales domain. The data, which includes more than 20 discrete sources of information, is fed into a data warehouse where is carefully managed by IT for quality and completeness.

IT owns and runs the data environment and the front-end tools used to collect and analyze it. IT also leads the process of ensuring that the data analysis "template" established by sales can be replicated in other business domains. The role of fi-nance is to ensure that the financial metrics generated by the system are consistent with the company's overall direction. This structure allows the sales team to plan activities in detail and measure the results precisely.

The extensive collaboration between these functional silos, and the support of senior management, was critical to the program's achieving the financial results and overall data transparency it had sought. Altogether, it took about two years to fully implement the effort, though the company began reaping benefits by the end of the first year.

Information services provider. The second company we examined provides information services to other companies. In the wake of the 2008 economic downturn, the nature and degree of information monitoring became more detailed and intensive. As a result, the company realized that all of its lines of business and functions, including IT, needed to collaborate more closely to be aligned on a common direction and pacing.

That mandate prompted senior leadership to give the business the lead in managing the data the company uses in its client offerings—and for those duties to be directed by a senior business executive who is also responsible for a new data center of excellence. Meanwhile, a new business/IT partnership governs all enterprise-level systems, ensuring tighter alignment between IT and the overall direction of the business. Every business unit is expected to improve its own expertise in business processes and data management.

For its part, the IT organization is expected to improve the quality, timeliness, and reliability of the underlying data infrastructure, and to upgrade the firm's enterprise architecture, establishing new norms for data flows, standards, and monitoring. Finally, a senior team that reports to top management will monitor the execution of the entire program.

higher price tag. Justifying the incremental cost and added organizational complexity is relatively straightforward for companies in industries such as healthcare and financial services, which have historically depended on information as a competitive asset. Manufacturing companies, on the other hand, may find a matrix organization more difficult to justify initially. However, many are already making greater use of data in such areas as supply chain management, and they too will find benefits in the matrix model.

No matter the industry, the matrix data organization demands a senior leader who understands the business and has a clear line of sight into C-suite priorities. He or she must have considerable authority to make key decisions about investment priorities regarding both IT and business resources, a high degree of respect among both business and IT stakeholders, and the ability to balance short-term business needs with longer-term goals for building out the necessary data capabilities.

Defining the Path

Arriving at the proper cross-functional, collaborative model for taking the most advantage of all the data at one's disposal isn't easy *(see "More Than One Right Model")*. Companies will be starting off at different points along the path, with different organizational

structures and levels of maturity, and varying sets of capabilities. We offer the following questions as a way for companies to consider the current state of their data efforts and to help them set the right path to follow to achieve full maturity.

- *How fundamental is data to your company's industry and business model?* Companies that use data primarily as an afterthought to evaluate performance and accounting may not feel a pressing need to develop their data capabilities or redefine organizational structures, compared with those in industries where having strong analytics is a requirement for survival.
- *Where and how dominant is the current "center of data analytics mass" at your company?* Companies whose data operations are already tightly controlled by either IT or a specific business unit or function may find it especially difficult to move to a matrix model, given organizational politics and the level of resources one group will likely have already invested.
- *How willing is the company to invest in additional data capabilities?* Companies that are not satisfied with their current analytics processes and organization must look closely at where the gaps are, and what it will take to fill them—whether by building new internal capabilities and structures, through new partnerships, or via some combination of the two.
- *Do you have a plan?* A truly balanced matrix model requires a considerable degree of thought in working out the details of organization and governance. The planning stage is critical, and it must include every group with a stake in how best to collect and use data.

How each company answers these questions will help determine its current condition with respect to data, its commitment to boosting the necessary capabilities, and the proper path to a truly differentiating data organization (*see "What's Your Level of Data Maturity?"*).

No matter which tools a company employs to mine its data diamonds, one thing is clear: Every organization needs a dedicated data owner and a coherent data strategy. This requires that business stakeholders define their direction clearly, identify the analytical capabilities required by their unique circumstance, and understand that the journey to building out a value-producing data organization will have many twists and turns. Meanwhile, IT needs to focus on adhering to the proper architectural vision, ensuring availability and uptime of data tools, and maintaining easy access to all the data available. Furthermore, business and IT stakeholders have a joint responsibility to monitor and maintain an appropriate level of data quality. The degree of collaboration required is high, but the benefits will be significant.

The history of corporate IT is littered with failed attempts to convince IT and the business to work together happily and productively. Yet in an age when data in all its varieties has become instrumental to business success, collaboration between the two groups is an absolute must. ✚

What's Your Level of Data Maturity?

Companies' data programs typically fall into one of four levels of maturity.

Immature. The company does not have central reporting. Each department creates one-off reports through its own operational systems and shadow IT groups. Excel and Access are the tools of choice; although individual departments may have their own data marts, there is no concept of enterprise data.

Evolving. The company has a collection of data marts or even an enterprise data repository that creates operational-level reporting. It also has a number of data sources and reporting tools that often compete with one another. The available analytics and reporting are primarily tactical; lacking adequate performance metrics, the company is unable to make truly data-driven decisions. Because of its lack of governance and a siloed focus on results, it struggles to become strategic.

Maturing. The company has a central data repository and a common set of reporting and analytical tools, with universally agreed-on definitions of the data. Its tools can be used for some analysis and forecasting, but are not fully trusted to help set the company's strategic direction. Selected business decisions are enabled by the data, but data is not an integrated part of the overall strategy.

Differentiating. The company views its capability to make strategic decisions enabled by full business intelligence as a differentiator. It is able to bring together data from different parts of the company to answer analytical finance, planning, and marketing questions, and to set forward-looking direction for the business. Information strategy and analytics are central to the strategic decisions the company makes.

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