

Mobilizing your C-suite for big-data analytics

Brad Brown, David Court, and Paul Willmott

Leadership-capacity constraints are undermining many companies' efforts. New management structures, roles, and divisions of labor can all be part of the solution.

The problem

As data and analytics transform the business landscape, they place a range of new demands on top teams, which often lack the management capacity to respond.

Why it matters

Without sufficient senior leadership, it's difficult to catalyze the widespread organizational change needed to capture data-analytics opportunities.

What to do about it

The biggest leadership gaps span six areas. Decide how to fill them by assessing the importance of centralized databases and analytics resources, as well as the ability of business-unit leaders to drive front-line change. Then take action by enhancing the mandates of existing functional or business-unit leaders, adding new roles to provide support for them, or creating new top-management capacity such as a chief data or analytics officer.

Over the past 30 years, most companies have added new C-level roles in response to changing business environments. The chief financial officer (CFO) role, which didn't exist at a majority of companies in the mid-1980s, rose to prominence as pressures for value management and more transparent investor relations gained traction.¹ Adding a chief marketing officer (CMO) became crucial as new channels and media raised the complexity of brand building and customer engagement. Chief strategy officers (CSOs) joined top teams to help companies address increasingly complex and fast-changing global markets.

Today, the power of data and analytics is profoundly altering the business landscape, and once again companies may need more top-management muscle. Capturing data-related opportunities to improve revenues, boost productivity, and, sometimes, create entirely new businesses puts new demands on companies—requiring not only new talent and investments in information infrastructure but also significant changes in mind-sets and frontline training.² It's becoming apparent that without extra executive horsepower, stoking the momentum of data analytics will be difficult for many organizations.

Because the new horizons available to companies typically span a wide range of functions, including marketing, risk, and operations, the C-suite can evolve in a variety of ways. In some cases, the solution will be to enhance the mandate of the chief information, marketing, strategy, or risk officer. Other companies may need new roles, such as a chief data officer, chief technical officer, or chief analytics officer, to head up centers of analytics excellence. This article seeks to clarify the most important tasks for executives playing those roles and then sets out some critical questions whose answers will inform any reconfiguration of the C-suite. Daunting as it may seem to rethink top-management roles and responsibilities, failing to do so, given the cross-cutting nature of many data-related opportunities, could well mean jeopardizing top- or bottom-line growth and opening the door to new competitors.

¹For more on the rise of the CFO role, see Dirk Zorn, "Here a chief, there a chief: The rise of the CFO in the American firm," *American Sociological Review*, 2004, Volume 69, Number 3, pp. 345–64.

²See Dominic Barton and David Court, "Making advanced analytics work for you," *Harvard Business Review*, 2012, Volume 90, Number 10, pp. 79–83; and David Court, interview with Frank Comes, "Putting big data and analytics to work," September 2012, mckinsey.com.

Six top-team tasks behind data analytics

Crafting and implementing a big-data and advanced-analytics strategy demands much more than serving up data to an external provider to mine for hidden trends. Rather, it's about effecting widespread change in the way a company does its day-to-day business. The often-transformative nature of that change places serious demands on the top team. There's no substitute for experienced hands who can apply institutional knowledge, navigate organizational hazards, make tough trade-offs, provide authority when decision rights conflict, and signal that the leadership is committed to a new analytics culture. In our experience, the concerted action that's required falls into six categories. Leaders should take full measure of them before assigning responsibilities or creating roles.

Establishing new mind-sets

Senior teams embarking on this journey need both to acquire a knowledge of data analytics so they can understand what's rapidly becoming feasible and to embrace the idea that data should be core to their business. Only when that top-level perspective is in place can durable behavioral changes radiate through the organization. An important question to ask at the outset is "Where could data analytics deliver quantum leaps in performance?" This exercise should take place within each significant business unit and functional organization and be led by a senior executive with the influence and authority to inspire action.

Leaders at one large transportation company asked its chief strategy officer to take charge of data analytics. To stretch the thinking and boost the knowledge of top managers, the CSO arranged visits to big data-savvy companies. Then he asked each business unit to build data-analytics priorities into its strategic plan for the coming year. That process created a high-profile milestone related to setting real business goals and captured the attention of the business units' executives. Before long, they were openly sharing and exploring ideas and probing for new analytics opportunities—all of which helped energize their organizations.

Defining a data-analytics strategy

Like any new business opportunity, data analytics will underdeliver on its potential without a clear strategy and well-articulated initiatives and benchmarks for success. Many companies falter in

this area, either because no one on the top team is explicitly charged with drafting a plan or because there isn't enough discussion or time devoted to getting alignment on priorities. At one telecommunications company, the CEO was keen to move ahead with data analytics, particularly to improve insights into customer retention and pricing. Although the company moved with alacrity to hire a senior analytics leader, the effort stalled just as quickly. To be sure, the analytics team did its part, diving into modeling and analysis. However, business-unit colleagues were slow to train their midlevel managers in how to use the new models: they didn't see the potential, which, frankly, wasn't part of "their" strategic priorities.

As we have argued previously,³ capturing the potential of data analytics requires a clear plan that establishes priorities and well-defined pathways to business results, much as the familiar strategic-planning process does. Developing that plan requires leadership. At a North American consumer company, the CEO asked the head of online and digital operations, an executive with deep data knowledge, to create the company's plan. The CEO further insisted that it be created in partnership with a business-unit leader who was not familiar with big data. This partnership—combining a data and analytics expert and an experienced frontline change operator—ensured that the analytics goals outlined in the plan were focused on actual, high-impact business decisions. Moreover, after these executives shared their progress with top-team counterparts, their collaborative model became a blueprint for the planning efforts of other business units.

Determining what to build, purchase, borrow, or rent

Another cluster of decisions that call for the authority and experience of a senior leader involves the assembly of data and the construction of advanced-analytics models and tools designed to improve performance. The resource demands often are considerable. With multitudes of external vendors now able to provide core data, models, and tools, top-management experience is needed to work through "build versus buy" trade-offs. Do strategic imperatives and expected performance improvements justify the in-house development and ownership of fully customized intellectual property in analytics? Or is reaching scale quickly so important that the experience and

³See Stefan Biesdorf, David Court, and Paul Willmott, "Big data: What's your plan?," *McKinsey Quarterly*, March 2013, mckinsey.com.

talent of vendors should be brought to bear? The creation of powerful data assets also can require the participation of senior leadership. Locking in access to valuable external data, for instance, may depend on forging high-level partnerships with customers, suppliers, or other players along the value chain.

The radically diverging paths different retailers have chosen underscore the range of options leaders must weigh. Several retailers and analytics firms have established long-term contracts covering a broad sweep of analytics needs. Other large players, both brick-and-mortar and online, have invested in deep internal data and analytics expertise. Each of these choices reflects a dynamic set of strategic, financial, and organizational requirements that shouldn't be left to middle management.

Securing analytics expertise

Under almost any strategic scenario, organizations will need more analytics experts who can thrive amid rapid change. The data-analytics game today is played on an open and (frequently) cloud-based infrastructure that makes it possible to combine new external and internal data readily and in user-friendly fashion. The new environment also requires management skills to engage growing numbers of deep statistical experts who create the predictive or optimization models that will underwrite growth.

The hunt for such talent is taking place in what has become the world's hottest market for advanced skills. Retaining these valued employees and then getting them to connect with business leaders to make a real difference is a true top-management task—one that often demands creative solutions. The leader of a big-data campaign at a major consumer company, for instance, decided to invest in an analytics unit distant from company headquarters. This other locale had abundant talent and a cultural environment preferred by data scientists and engineers. The leader then closed the loop, ensuring that each unit of the analytics team had a direct connection to a business-unit team at the company.

Mobilizing resources

Companies often are surprised by the arduous management effort involved in mobilizing human and capital resources across many functions and businesses to create new decision-support tools and

help frontline managers exploit advanced analytics models. An empowered senior player is vital to breaking down the institutional barriers that frequently hamper efforts to supercharge decisions through data analytics. Success requires getting a diverse group of managers to coalesce around change—encouraging alignment across a wide phalanx of IT, business-lines, analytics, and training experts. The possibility of failure is high when companies don't commit leadership.

Take the example of a second transportation company, where middle managers across product areas were tasked with identifying data-analytics opportunities and then pushing them forward. The analytics managers were routinely frustrated when data teams failed to deliver data on schedule or in usable formats. When it came time to embed the resulting analytics into customized tools, managers faced additional frustrations as urgent requests worked their way through routine budgeting and planning processes. The company gave the task of stepping up the pace of its analytics agenda to a top marketing and sales executive, who assembled cross-functional teams including database managers, analysts, and software programmers. The teams rotated across analytics opportunities, steering them from launch to implementation in six- to eight-week bursts. Through this rapid mobilization, the company checked off several analytics priorities only months after the marketing leader took charge.

Building frontline capabilities

The sophisticated analytics solutions that statisticians and scientists devise must be embedded in frontline tools so simple and engaging that managers and frontline employees will be eager to use them daily. The scale and scope of this adoption effort—which must also involve formal training, on-the-job coaching, and metrics that clearly define progress—shouldn't be downplayed. In our experience, many companies spend 90 percent of their investment on building models and only 10 percent on frontline usage, when, in fact, closer to half of the analytics investment should go to the front lines.

Here, again, we have seen plenty of cases where no one on the top team assumed responsibility for sustained ground-level change. Lacking senior accountability and engagement, one financial-services company weathered several waves of analytics investment and interest only to have efforts fizzle when training and adoption fell short. Dismayed, business-unit leaders then took charge, investing

in ongoing training sessions for managers and end users, pushing for the constant refinement of analytics tools, and tracking tool usage with new metrics. Over time, thanks to the consistent application of analytics, the transformation effort gained the hoped-for momentum.

Putting leadership capacity where it's needed

As companies size up these challenges, most will concede that they need to add executive capacity. But that leaves unanswered important decisions about where, exactly, new roles will be located and how new lines of authority will be drawn. As we'll outline below, our experience shows that companies can make a strong case for leading their data-analytics strategies and talent centrally or even for establishing a formal data-analytics center of excellence. However, frontline activities (mobilizing resources, building capabilities) will need to take place at the business-unit or functional level, for two reasons. First, the priorities for using data analytics to increase revenues and productivity will differ by business. Second, and just as important, companies best catalyze frontline change when they connect it with core operations and management priorities and reinforce it with clear metrics and targets.

Beyond this bias for pushing frontline mobilization responsibility to business units, there is no single prescription for where and how a company should add leadership capacity. Given the relative immaturity of data-analytics applications, that shouldn't be surprising. Yet as leaders review their options, they needn't fly blind. Pushing for answers to three key questions, in our experience, brings strategic clarity to the needed organizational changes:

1. Will a central customer or operational database be used across business units?
2. Is there a compelling need to build substantial analytics resources internally to retain talent and build proprietary assets and advantages?
3. Within each business unit, can the current functional executives handle the change-management challenge or should the company dedicate new executive capacity specifically for the data-analytics change effort?

We'll illustrate the importance of these issues through examples of companies that have addressed them in different ways.

When central data assets are key

At many consumer-services businesses, exploiting analytics involves combining transaction data across a number of businesses or channels. That approach allows these companies to shape insights such as how consumers engage with Web sites or decide between shopping online or in stores. These companies often have (or are building) new central data warehouses or data environments, as well as related data-management capabilities. In addition, they often are working through new rules of the road on issues such as how they can access data while protecting consumer privacy or ensure that key customers aren't hassled by unnecessary contacts.

In such cases, an enhanced role for the CIO—spearheading the development of the data-analytics strategy and talent building—is a popular path. Operationally, the CIO takes charge of efforts to develop the data and analytics infrastructure while letting the business units mobilize change aimed at exploiting it.

At one multibusiness consumer-services company, for instance, the board and senior-leadership team recognized that a significant step-up in performance could be achieved if it fully exploited analytics opportunities across business lines by harnessing its multi-channel databases. Recognizing the overarching role that the central databases play in the company's agenda, the leadership designated the chief information officer to direct the effort and to define the data and analytics strategy.

The leaders realized that each business unit, by necessity, would have its own targeted analytic priorities, such as strengthening promotional offers or optimizing inventory levels. Moreover, a different group of managers would be applying the insights across business units. The leadership concluded that under these circumstances, managing analysis and frontline training from the center would be a mistake and decided instead that the CIO should partner with business-unit leaders, sharing with them a tiered set of responsibilities.

At present, the CIO is immersed in two key projects. The first is creating a new infrastructure that unites the company's multichannel

transaction data with external social-media and competitive information and delivers the result to business units through an intuitive interface. The second involves building up analytics expertise that can be assigned to different business units but managed centrally, at least for the next couple of years as the effort gains critical mass. The analytics team is led by a deeply experienced executive who reports to the CIO and provides a crucial injection of top-management capacity. In parallel, business-unit leaders are hammering out analytics priorities and building the skills of frontline managers who will use new models to, for example, redirect spending across media channels.

When substantial internal analytics expertise is core to performance

We are also seeing a second approach, which shares some of the centralized aspects we touched on above but specifically involves companies that decide to build rather than outsource a critical body of advanced analytics expertise. That decision often leads organizations to locate the expertise centrally, where it serves as a common platform for creating value across business units.

At one consumer-facing company, analytics expertise and leadership were concentrated in the finance and risk-management team, which historically had accounted for significant data-related value creation. When the company began pursuing a more aggressive analytics strategy, the CFO took responsibility for several tasks, including defining the basic strategy, overseeing make-versus-buy decisions for the core risk-management analytics tools, mobilizing resources within the function's analytics team, and building expertise.

However, having made these primary decisions about analytics, the CEO and CFO soon realized that significant complementary efforts were needed to secure better data for the analytics team and to reinforce change efforts and revamp several processes across the business units. To lead these initiatives, they established a new position—chief data officer—within the CFO's organization. This CDO proactively manages information, working with business managers to identify both internal and external data they may not even realize exists. Delivered ready for analysis, the data can be applied rapidly to needed tasks by modeling experts and, just as important, continually refreshed for new experiments and broader application. Many companies may find they need this type of

leadership to support business leaders as they identify sources of data-driven advantages, work through analytics priorities, and try to accelerate frontline adoption.

When managing scale and complexity within business units is paramount

Whether elements of the effort are managed centrally or not, much of the data-analytics heavy lifting will fall on business or functional leaders within individual business units. A core question at the business-unit level is whether to add a new role or ask a key functional leader (such as the CMO or the head of operations) to add new responsibilities to what in all likelihood is already a pretty full plate.

When the senior leaders of a large financial-services company took a wide-ranging look at its strategy, they decided that one business unit could gain a significant competitive edge if it doubled down on data analytics. To push the strategy ahead decisively, the company recruited a chief analytics officer, who reports to the business-line president and oversees a new center of excellence drawing on internal consultants, analytics modelers, and software programmers.

This approach, which represents a significant organizational change, is accelerating the business unit's data-transformation effort. As a top-team member, the CAO can drive a broad range of decisions, from setting analytics strategy to defining the responsibilities of frontline managers. Since the center of excellence spans multiple disciplines, the CAO can mobilize analytics and software-programming resources swiftly, which has sped up the creation of frontline tools. Meantime, operating from within the business unit has given him a deeper understanding of what makes it tick—its priorities, patterns of working, and ongoing challenges. This has paid off in sharper decisions about which tools to develop and a keener sense of the skills that training programs need to foster. The fact that the business unit's leaders are engaged with the CAO on a day-to-day basis helps keep them focused on their analytics and adoption agendas.

Building on this success, the company has recently taken the further step of adding another new role, a chief data officer, who reports to

the CIO but works daily with the chief analytics officer to help knit together data and new analytics tools and to speed frontline change.



For companies pursuing the potential of data analytics, a decision about leadership capacity looms—regardless of where in the end they decide to place it. For some, such as the consumer-facing companies described earlier, current top-team members will be asked to step up and assume broader leadership responsibilities, often with additional support from new, senior lieutenants. For others, such as the financial-services company we explored, establishing one or more new senior posts to drive the analytics agenda will be the best solution.

At all companies, top teams, and probably board members as well, need a better understanding of the scale of what’s needed to ensure data-analytics success. Then they must notch these responsibilities against their existing management capacity in a way that’s sensitive to the organization’s core sources of value and that meshes with existing structures. None of this is easy, but it’s the only serious way to pursue data analytics as a new frontier for growth. ○

The authors would like to acknowledge the contributions of Matthew Ariker, Amit Garg, Joshua Goff, Lori Sherer, and Isaac Townsend to the development of this article.

Brad Brown is a director in McKinsey’s New York office, **David Court** is a director in the Dallas office, and **Paul Willmott** is a director in the London office.