Three keys to building a data-driven strategy

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Executives should focus on targeted efforts to source data, build models, and transform organizational culture.

Big data and analytics have climbed to the top of the corporate agenda. Together, they promise to transform the way companies do business, delivering the kind of performance gains last seen in the 1990s, when organizations redesigned their core processes. And as data-driven strategies take hold, they will become an increasingly important point of competitive differentiation.

In our work with dozens of companies in six data-rich industries, we have found that fully exploiting data and analytics requires three mutually supportive capabilities. First, companies must be able to identify, combine, and manage multiple sources of data. Second, they need the capability to build advanced-analytics models for predicting and optimizing outcomes. Third, and most critical, management must possess the muscle to transform the organization so that the data and models actually yield better decisions. Two important features underpin those competencies: a clear strategy for how to use data and analytics to compete and the deployment of the right technology architecture and capabilities.

Just as important, a clear vision of the desired business impact must shape the integrated approach to data sourcing, model building, and organizational transformation. That helps you avoid the common trap of starting by asking what the data can do for you. Leaders should invest sufficient time and energy in aligning managers across the organization in support of the mission.

1. Choose the right data

The universe of data and modeling has changed vastly over the past few years. The volume of information is growing rapidly, while opportunities to expand insights by combining data are accelerating. Bigger and better data give companies both more panoramic and more granular views of their business environment. The ability to see what was previously invisible improves operations, customer experiences, and strategy. That means upping your game in two areas.

Source data creatively

Often, companies already have the data they need to tackle business problems, but managers simply don't know how they can use this information to make key decisions. Operations executives, for instance, might not grasp the potential value of the daily or hourly factory and customer-service data they possess. Companies can encourage a more comprehensive look at data by being specific about the business problems and opportunities they need to address.

Managers also need to get creative about the potential of external and new sources of data. Social media generates terabytes of nontraditional, unstructured data in the form of conversations, photos, and video. Add to that the streams of data flowing in from sensors, monitored processes, and external sources ranging from local demographics to weather forecasts. One way to prompt broader thinking about potential data is to ask, "What decisions could we make if we had all the information we need?"

Get the necessary IT support

Legacy IT structures may hinder new types of data sourcing, storage, and analysis. Existing IT architectures may prevent the integration of siloed information, and managing unstructured data often remains beyond traditional IT capabilities. Fully resolving these issues often takes years. However, business leaders can address short-term big-data needs by working with CIOs to prioritize requirements. This means quickly identifying and connecting the most important data for use in analytics and then mounting a cleanup operation to synchronize and merge overlapping data and to work around missing information.

2. Build models that predict and optimize business outcomes

Data are essential, but performance improvements and competitive advantage arise from analytics models that allow managers to predict and optimize outcomes. More important, the most effective approach to building a model usually starts, not with the data, but with identifying a business opportunity and determining how the model can improve performance. We have found that such hypothesis-led modeling generates faster outcomes and roots models in practical data relationships that are more broadly understood by managers.

Remember, too, that any modeling exercise has inherent risk. Although advanced statistical methods indisputably make for better models, statistics experts sometimes design models that are too complex to be practical and may exhaust most organizations' capabilities. Companies should repeatedly ask, "What's the least complex model that would improve our performance?"

3. Transform your company's capabilities

The lead concern senior executives express to us is that their managers don't understand or trust big data–based models and, consequently, don't use them.

Such problems often arise because of a mismatch between an organization's existing culture and capabilities and emerging tactics to exploit analytics successfully. The new approaches either don't align with how companies actually arrive at decisions or fail to provide a clear blueprint for realizing business goals. Tools seem to be designed for experts in modeling rather than for people on the front lines, and few managers find the models engaging enough to champion their use—a key failing if companies want the new methods to permeate the organization. Bottom line: using big data requires thoughtful organizational change, and three areas of action can get you there.

Develop business-relevant analytics that can be put to use

Many initial implementations of big data and analytics fail because they aren't in sync with a company's day-to-day processes and decision-making norms. Model designers need to understand the types of business judgments that managers make to align their actions with broader company goals. Conversations with frontline managers will ensure that analytics and tools complement existing decision processes, so companies can manage a range of trade-offs effectively.

Embed analytics in simple tools for the front lines

Managers need transparent methods for using the new models and algorithms on a daily basis. By necessity, terabytes of data and sophisticated modeling are required to sharpen marketing, risk management, and operations. The key is to separate the statistics experts and software developers from the managers who use the data-driven insights. The goal: to give frontline managers intuitive tools and interfaces that help them with their jobs.

Develop capabilities to exploit big data

Even with simple and usable models, most organizations will need to upgrade their analytical skills and literacy. To make analytics part of the fabric of daily operations, managers must view it as central to solving problems and identifying opportunities. Efforts will vary, depending on a company's goals and desired time line. Adjusting cultures and mind-sets typically requires a multifaceted approach that includes training, role modeling by leaders, and incentives and metrics to reinforce behavior. Adult learners, for instance, often benefit from a "field and forum" approach, in which they participate in real-world, analytics-based workplace decisions that allow them to learn by doing.

Our experience suggests that executives should act now to implement big data and analytics. But rather than undertaking massive change, executives should concentrate on targeted efforts to source data, build models, and transform the organizational culture. Such efforts help maintain flexibility. That's essential, since the information itself—along with the technology for managing and analyzing it—will continue to grow and change, yielding new opportunities. As more companies learn the core skills of using big data, building superior capabilities will become a decisive competitive asset.

For more, see the full *Harvard Business Review* article, "Making advanced analytics work for you," from which this summary is drawn (registration required). ▢

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