The Analytic Enterprise

How to become a data-driven company

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Organizations today are amassing huge amounts of data from a variety of sources, including mobile apps, social media and more. Yet, the organizations with the most data don't necessarily prevail. Rather, it's the ones that place data at the heart of all their decision making that compete the most effectively.

So how do you transform your organization from one that simply collects data to one that is data driven? By overcoming two major challenges. Most organizations are familiar with the first challenge of installing the requisite technology infrastructure. But the second challenge often proves to be the bigger one: You have to establish an analytic culture.

Changing an organization's culture is a huge endeavor. It requires addressing the underlying factors that drive employee behavior, acquiring the necessary analytic skills and talent, and developing a strategy for embedding analytics end to end, throughout the entire organization.

Characteristics of the Analytic Enterprise

An analytic enterprise is agile. It uses fact-based information to predict market changes and drive its business strategy. While any organization can run an ad hoc analytic event, the analytic enterprise employs ongoing, repeatable processes that provide value quickly. The analytic enterprise encourages collaboration and information sharing between business units, and it embeds analytics at every corner of the enterprise – not just within marketing or R&D.

Acknowledging and Addressing Cultural Barriers

A defining part of an organization's environment is its culture. Without a data-driven culture, employees have no incentive to use the technology put before them. Resistance often presents itself in the form of, what some call, the "three buts." Employees might say to you: "*But* I know my business. *But* this is how we do things. *But* I remember when… ."

So the first step in deploying any new technology is acknowledging the cultural barrier. Since a corporate culture is shaped by how an organization makes its decisions and how it rewards its business units, shifting to a data-driven culture requires you do the following:

- **Treat information like a corporate asset.** It is not enough to simply talk about information being a corporate asset. Those values need to reflect in an organization's behavior. That means dedicating the time and effort into forming theories, testing hunches and searching for patterns in the data.
- **Communicate key measurements.** Culture is defined at the top of the organization. To drive new behaviors, business leaders need to set up rewards and incentives that support data-driven decision making – and build those incentives into strategic and operational planning.
- **Value collaboration between business units.** A data-driven culture promotes a collaborative environment where information is openly shared and where business units interact and meet routinely – e.g., marketing meets with sales, sales meets with R&D and so on.
- **Create an environment that supports exploratory analysis.** In order for employees to experiment with new ideas and hunches, they need access to the resources that enable informed decision making. Data needs to be integrated and skills need to be made accessible.

Cultivating Analytic Skills and Talent

To create a data-driven culture, you also want to invest in attracting people of all skill levels who are comfortable and capable of working with petabytes of data and turning that data into business decisions. And you need leadership to drive that change.

In addition to traditional means for acquiring talent, data-driven organizations are employing new methods for raising their analytic maturity. Consider the following trends.

Asking the Right Questions

In the past, organizations rewarded individuals who had the answers. When it comes to data-driven decision making, however, asking the right questions is even more important. Data exploration plays a large role in any analytics project. Every query leads you deeper into the data. So while you may need highly skilled talent to combine analytical techniques and arrive at an answer, having people who can ask the right questions is invaluable.

Traditional Methods for Acquiring Talent

- **Build.** You can train existing employees on new techniques. An advantage is your employees are already familiar with your industry and your business environment.

- **Borrow.** Some organizations use consultants, not only as an augmentation, but also to train existing employees.

- **Buy.** You can hire mid- or senior-level resources from the outside who can lend a fresh perspective to the business.

The Hiring of Several People to Fill the Data Scientist Role

The true data scientist is an elusive, highly sought-after individual. In addition to years of formal training, this person needs to possess several innate abilities – including empathy, creativity and curiosity – along with communication skills to make sure his or her insights have impact. Because it is difficult for businesses to fit such a large variation of skills under one job title, many companies are hiring several people, instead of just one, to fill the role of the data scientist.

What Is a Data Scientist?

A data scientist is someone with a solid foundation in math, statistics and computer science who understands the business side of things. A good data scientist is part hacker, part sleuth – a person with a natural curiosity and storytelling abilities. This person can spot trends in the data and effectively communicate his or her findings to business leaders.

The Changing Role of the IT Department

A decade ago, organizations looked to their IT departments to provide the software, hardware and technical services for the enterprise. But not anymore. In data-driven organizations, IT is playing a dramatically different role. No longer is it simply sitting back and waiting for help ticket requests to come through the pipeline. Instead, the IT department is proactive and involved. It works alongside the business units to deploy the data environments and capabilities needed for strategic decision making. Today's IT department has gone from a role of technology developer to one of technology enabler. And it has gone from simply aligning itself with the needs of the business units to becoming a full-fledged partner.

The Rise of the Chief Analytics Officer

Organizations that want to embed analytics in every corner of the enterprise are bringing analytic talent to the top of the organization. New roles, such as the chief analytics officer (CAO) are emerging. The CAO's chief task is to create a culture of analytics. By making room at the table for a CAO, an enterprise is highlighting analytics as a discrete business practice. What's more, organizations that hire CAOs recognize that becoming a data-driven enterprise is as much a change-management challenge as it is a technical one.

The Emergence of Centers of Excellence

Organizations that are serious about fact-based decisions treat data as an asset to be used for business gain throughout the enterprise. To bring employees up to speed on analytics, many are forming internal centers of excellence (COEs) – sometimes called insight centers. A critical objective for this new business unit is promoting self-service. The COE assists decision makers and others by providing them with the information they need to make the most out of analytics. It also serves as a think tank, working in conjunction with the business units to develop and deliver new and advanced analytic capabilities.

Taking an Integrated Approach to Analytic Transformation

The big data movement has brought with it a host of new technologies. But acquiring these technologies simply for the sake of modernizing is not effective. Organizations are complex environments. Those that push the technology alone do not mature. To evolve into a data-driven organization, a business needs to move forward at the same pace, with the following four pillars:

- **Culture.** This is the direction given by the executive team. It is how a business measures and evaluates performance. A data-driven organization understands, demands and values fact-based decisions and strategies. It does not accept intuition-based decisions or guesses.
- **Skills.** This is an organization's ability to attract, retain, develop and empower talent. Business units need access to the skills and resources critical to fact-based decision making. An organization's HR department should have appropriate job categories to attract the required talent.
- **Internal processes.** Business units need a well-defined set of processes to identify, prioritize and address their information and analytical requirements. These internal processes allow business units to coordinate support from IT and to acquire skills when they need them.
- **Information infrastructure.** The goal of an organization's technology architecture is to give business units access to relevant, accurate, consistent and timely enterprise information. That is the ultimate success measure for the infrastructure.

Five Components of an Effective Analytic Strategy

Creating an analytic culture requires a methodology for systematically and pragmatically moving an organization toward its target environment. A successful, effective strategy includes:

- **Strategic objectives.** Your business strategy should drive your analytic strategy, but keep it simple. Define no more than three to five achievable objectives, and structure your strategy around those.

- **Current and desired competencies and capabilities.** Next, translate your strategic objectives into competencies and capabilities. For example, you might say that to increase market share by 3 percent, you need to retain a specific customer segment.

- **Approach to achieving strategy objectives.** How will you achieve your set objectives? Will you move in that direction for all business units or just one? Will you need external help or do you have the resources?

- **Organizational initiatives to achieve objectives.** What are your milestones and phases for the transition? What capabilities do you need in six months? In 12 months? Be specific.

- **Performance indicators.** Finally, make sure you have clearly defined measures of success. What does success look like in six months? In two years? Share those metrics with all of the stakeholders.

Conclusion

Leveraging data and analytics is something organizations today cannot afford to fall behind on. It is a mistake to install the technology and think that is all that needs to happen. Embedding analytics deeply in the enterprise requires a culture that recognizes the importance of relying on information-based decisions. And creating that culture requires a clear, pragmatic strategy for transformation.

SAS Business Analytics Modernization Assessment

As your organization accumulates data, it is important to consider a strategy for drawing insights from that data using analytics. SAS offers a Business Analytics Modernization Assessment (BAMA). During this two-and-a-half day assessment, SAS representatives interview your IT and business divisions. SAS then uses that information to create a strategic analytics road map for recommended changes around people, processes, data, technology and culture.

Learn More

Want to learn more about BAMA? Take the five-minute SAS Business Analytics Assessment.

Learn about the four pillars of building an analytic strategy. Read the book *Business Transformation: A Roadmap for Maximizing Organizational Insights* by Aiman Zeid.

Learn how other companies incorporate analytics into their culture. Download The Analytics Mandate, a joint research report from MIT Sloan Management Review and SAS.

Download *Anatomy of an Analytic Enterprise*, an examination of your organization's analytic physique.