What Separates Analytical Leaders From Laggards?

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Information technology changes at a rapid pace, but organizational adoption of it often doesn't. Fourteen years ago, one of us (Davenport) wrote an article about how companies were beginning to compete on analytics. In the years that followed, data and analytics seemed to become embedded in business culture. Whether these tools were called *analytics*, *big data*, or *artificial intelligence*, organizations of all sizes and types supposedly embraced these resources as a way to improve decision-making and enhance offerings.

How to explain, then, a recent Deloitte survey of U.S. executives that found that only 10% of companies are competing on their analytical insights, and that the most popular tool for analyzing data — used by 62% of companies responding to the survey — is the spreadsheet?

Our survey results clearly show that analytical competitors represent a minority of businesses today, despite the number of years technologies like big data and analytics have been readily available. Becoming an organization that's driven by data and analytics is not the result of any single factor; it is multidimensional. For organizations to fully leverage the insights they derive and embed them into decisions and actions, a combination of three drivers is required: data and tools, talent, and culture.

Forward Progress

There has been progress, of course. In April 2019, Deloitte posed questions about the use of analytics to 1,048 executives working at large U.S. companies (those with 500-plus employees) who interact with, create, or use analytics as part of their job. The survey found that many companies have invested in creating the requisite data initiatives, analytics, or data science groups. Many have created chief data officer or chief analytics officer roles, and the vast majority have invested in tactical solutions. Many legacy issues that traditionally posed barriers have been eliminated or reduced, including the high cost of data storage, expensive proprietary software, and the need to devote capital to expensive data centers.

Three-quarters of the survey respondents reported that their organization's analytical maturity increased over the past year, and nearly as many — 70% — expect business analytics to be more important in the next three years than it is now.

Accompanying these indicators of increased organizational awareness is the finding that over the next few years, business analytics as an organizational priority is expected to be on par with such critical drivers of business value as risk management, reputation management, product and service innovation, and managing growth expectations. In other words, analytics is becoming an established fact of business life.

AI — the more technology-intensive relative of business analytics — is not yet used as commonly as some other business and management tools. However, other Deloitte surveys, such as the one conducted for 2018's "State of AI in the Enterprise" report, suggest that its use is growing even more rapidly as we move into what we call the *Age of With* — a world where humans work side by side with machines.

Stubborn Challenges

However, few companies have truly evolved into organizations driven by analytics and data. A data-driven culture is one in which important decisions are made based on data and analytics (assuming that data is available) and executives have a willingness to act on analytically derived insights rather than intuition. Among our April 2019 survey findings:

Most executives do not believe their companies are analytics driven. Only 37% of those surveyed said they would describe their organizations as either "analytical companies" or "analytical competitors." Just 10% placed themselves into the highest category. The remaining 63% said that they are aware of analytics but that their companies lack infrastructure, are still working in silos, or are expanding analytics capabilities in an ad hoc manner.

Most executives are not comfortable accessing or using data. Sixty-seven percent of those surveyed, who were all senior managers or higher, said they are not comfortable accessing or using data from their tools and resources. Even at companies with strong data-driven cultures, 37% of respondents still expressed discomfort.

Spreadsheets are the most commonly used analytical tools. Spreadsheets have shortcomings as an analytics technology: Many have errors, and it is easy to create "multiple versions of the truth" with them. Fortunately, 67% of the companies surveyed also use at least one advanced tool such as SAS, an open-source tool like R, a programming language such as Python, or an AI tool.

Most organizations use limited data types. About two-thirds (64%) reported relying on structured data from internal systems or resources. Far fewer (18%) have taken advantage of unstructured data, such as product images or customer audio files, or comments from social media. This is a missed opportunity: Executives who said unstructured data is one of the most valuable sources of insights were 24% more likely to have exceeded their business goals.

The majority of companies today adopt a fragmented, siloed approach to analytics tools and data. This approach correlates with diminished business success.

A Culture That Acts on Insights

Organizations with the strongest cultural orientation to data-driven insights and decision-making were twice as likely to have significantly exceeded business goals: Among the 37% of companies in the survey with the strongest analytical cultures, 48% significantly exceeded their business

goals in the past 12 months. In the 63% of companies that do not have as strong an analytics culture, only 22% significantly exceeded their business goals.

Among the key drivers that help companies scale their analytical insights, a data-driven culture is the most difficult to establish. Culture appears to be the one factor holding back many organizations.

In our experience — reinforced by our survey — the vast majority of companies do not have initiatives in place to address the data-driven culture issue. Here are some recommended steps to bring about the changes needed:

Aim high for analytics champions. Executive sponsorship is vital to this level of organizational change, and the best champion sits in the corner office. According to the survey, the CEO is the lead champion of analytics in 29% of companies surveyed, and these companies are 77% more likely to have significantly exceeded their business goals. They are also 59% more likely to derive actionable insights from the analytics they are tracking. Companies should hire or promote leaders with a strong orientation toward analytics-based strategy and competition.
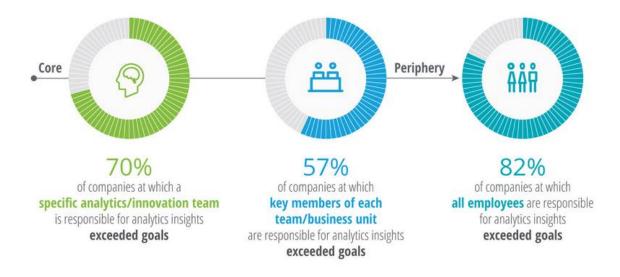
Encourage leaders to model examples. In meetings, for example, leaders should demonstrate the importance of analytics by asking for data points to back up business decisions. There is a major opportunity for companies to provide more education and improve the user experience if they want every employee to use insights as part of their work.

Spread analytical talent broadly across an organization. The survey data shows that two-thirds of organizations rely on a select group of employees who have been trained in analytics or data science. However, how companies assign responsibility for analytics is a crucial factor in exceeding business goals: Survey data indicates that spreading responsibility across organizational lines is more effective than localized responsibility. (See "The Great Payoff of Shared Analytics Responsibility.") In fact, the study found that 57% of companies where only key members of each team are responsible for analytics exceeded business goals, whereas 82% of companies in which *all* employees are responsible exceeded business goals. Companies would do well to cultivate a wide variety of people throughout the organization who are curious, numerate, and capable of translating between analytics/data science methods and business requirements. This might be called the *democratization of data science*.

The Great Payoff of Shared Analytics Responsibility

How companies assign responsibility for analytics insights is a crucial factor in whether they exceed business goals. As organizations spread responsibility more broadly, more report surpassing their business goals.

Core → **Periphery**

70%
of companies at which a
specific analytics/innovation team
is responsible for analytics insights
exceeded goals

57%
of companies at which
**key members of each
team/business unit**
are responsible for analytics insights
exceeded goals

82%
of companies at which
all employees are responsible
for analytics insights
exceeded goals

Source: Deloitte's 2019 survey "Becoming an Insight-Driven Organization"

Implement individual performance assessments tying the use of analytics to incentives. Make it easy for employees to act on data and analytics through behavioral economic "nudges" — an effective way to motivate desired actions. Reward data-oriented ingenuity and risk-taking, even if efforts fail. Create a culture that respects the notion of honorable failure.

Know the limits of analytics. If you can't get the data, you can't gain the insights.

Buying and using analytics tools is not hard, but changing behaviors is. By enlisting executive sponsors, emphasizing education, and modeling and rewarding the right behaviors, businesses can eliminate traditional analytics silos and adopt a truly integrated approach to analytics and AI.

About the Authors

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