

# Back to basics: Building your analytics program on a solid data foundation



## Executive summary

We are doing business in an interconnected economic climate that evolves literally moment by moment. The latest stock market gyrations are tweeted within seconds. An economic itch in New York is scratched in China. The European Union—and Wall Street— anxiously hold their breath as a small European country struggles to regain monetary footing. It is no wonder that the vast majority of chief executive officers (CEOs) perceive this new economic environment as substantially changed.<sup>1</sup>

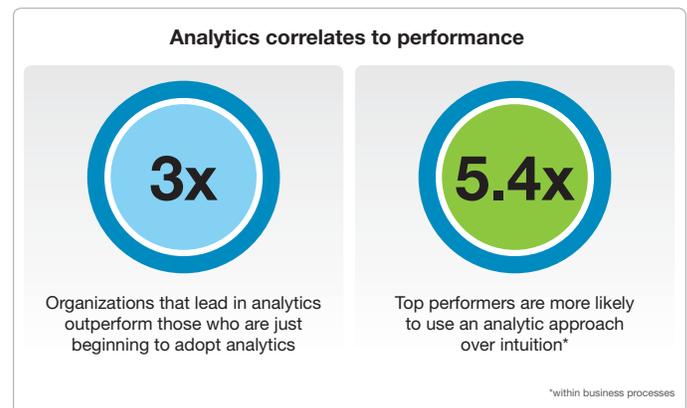
Relying on gut instincts or “the way we’ve always done it” does not play well in this brave new world. Organizations are reacting to this volatility with increased dependence on data and analytics.<sup>2</sup> Their approach is validated by studies showing that experienced analytics users are three times more likely to outpace competitors who are analytics newcomers.<sup>3</sup>

For human resource (HR) practitioners, analytics can be especially critical, providing vital information for important topics such as:

- Workforce planning
- Demographics and diversity
- Retention and mobility
- Staffing and recruiting
- Compensation and benefits
- Training and development
- Workforce performance and measurement
- Acquisition and movement

No organization can risk basing their planning and strategy on faulty or incomplete data. One survey showed that 24 percent of organizations cited their inability to obtain data as a primary obstacle to widespread analytics adoption.<sup>4</sup> In this paper, we’ll

describe critical challenges faced by many organizations as they strive to obtain crisp, informative data. Then, we’ll explore approaches for overcoming those challenges. Ultimately, going “back to basics” with your data is the foundation upon which you can build a transformative analytics program.



*Analytics: The New Path to Value*, a joint MIT Sloan Management Review and IBM Institute of Business Value study. Copyright © Massachusetts Institute of Technology 2010.

## Navigating a volatile economy with reliable data

HR executives face several major issues that are often exacerbated by a turbulent economy—their workforce is maturing, employee skill sets often lag behind global competition and technological advancements, and the premise that much of the current economic growth is based in rapidly developing countries. In fact, a survey of more than 700 chief human resource officers (CHROs) reveals three critical, related areas for improvement: developing future leaders, rapidly developing

workforce skills and capabilities, and fostering knowledge sharing and collaboration across borders.<sup>5</sup> Effective analytics can help you achieve these and other HR objectives by providing you with operational data, which supports an understanding of the current state of your business and a deeper understanding of current challenges. Operational data is most effective when combined with predictive analytics, which help you prepare for future scenarios. The ability to draw insights into employment and attrition risks, or the impact of specific criteria on employee success, can facilitate preemptive strategies.

To provide truly actionable business insights and impact long-term strategy and planning, HR needs to move from simple data management and basic reporting to benchmarking, analysis, and advanced analytics.

For example, suppose your analytics uncovered a skills gap with your development engineers, and you addressed this gap with increased training. Upon completion of the training, your data indicated that the development cycles were shortened and repeat business improved, which in turn increased revenue—all as follow-on effects of the training. This was a tangible scenario in which actionable business insights were connected to business results.

### **Assessing obstacles to accurate, relevant data**

Data quality and accuracy are the foundations for dynamic, advanced analytics. Yet research shows that only one in five respondents strongly agreed that they trusted the reliability and accuracy of their organizational data.<sup>6</sup> Five primary obstacles often come into play:

#### **Poor data quality**

The most sophisticated analytics program has little value if partnered with poor data. To provide higher quality data, you need to focus on the basics. For example, do you have data standards that enforce consistent use of fields, formats and attributes? Are your data definitions consistent across the organization? Do roles such as “sales manager” share the same attributes across various divisions or geographies? Has your company participated in a recent merger or acquisition, in which data from two disparate organizations is combined? These considerations should be given due diligence early on.

#### **Globally dispersed HR organization structure**

Without solid global governance, far-flung teams and divisions can often succumb to local issues and pressures. A global strategy, combined with global governance and a global funding model, can help to instill discipline across multiple locations. A shared service or outsourcing arrangement can also provide the strategy, standards and governance required to maintain good data quality.

#### **No single HR system of record**

Every organization needs a strong, robust system of record to retain and synthesize data. Many companies hold just a limited set of master data centrally, with significant amounts of data maintained in ancillary systems. They also need to consider learning management systems, recruiting, payroll and other freestanding applications. Defining global data elements for each of these HR pillars as well as integrating this data into a central repository helps provide one interrelated view across the organization, as well as facilitating insights and correlation across multiple data areas such as training and sales revenue.

### HR operational data

Operational data can analyze HR performance measures that impact satisfaction, such as employee queries, use of employee self-service portals, response timeliness and accuracy, approvals, and request completions. Yet even though the quality of an employee's experience is a primary factor in retention, many HR organizations do not capture this data. They are missing out on actionable insights that can improve employee satisfaction, as well as drive processes to more efficient HR channels such as self-service.

### HR skills

Perhaps it's the "human" nature of human resources, but most HR professionals tend to be stronger in verbal than numerical reasoning. Research shows that the overall need for employees with substantial analytical skills could surpass projected supply by 50 to 60 percent by 2018.<sup>7</sup> And 28 percent of companies cite lack of internal skills as an impediment to adopting an analytics program.<sup>8</sup> Organizations should keep this in mind when recruiting new talent, and when planning skills development for current employees. Implementing a cross-organization data quality framework can also leverage analytical skills from other departments.

## Getting back to basics: implementing a data quality framework

Getting to clean data is an ongoing journey. To achieve and maintain accurate, complete data, IBM recommends starting with a data quality framework. Although this can be implemented in manageable phases, it's important to target first steps toward high-value areas. Make data quality framework objectives part of participants' performance plans and socialize their benefits across your organization. Such a framework is a strategic

acknowledgement that corporate data is a critical resource and will be managed as such. Incorporating the components of this framework into business processes helps corporate data receive the day-to-day attention it deserves.

### Data ownership organization

Data quality is the responsibility of all data creators, data consumers and information technology (IT) suppliers. Yet without formal structure, individual accountability will not aggregate into collective responsibility. Because data roles and responsibilities are often matrixed across an organization, establishing a data ownership organization can help make the management, integrity, accessibility and protection of data a top priority. Additionally, such a committee can effectively leverage analytical skills from across your organization. Typical roles can include:

**Executive sponsor.** Serves as executive spokesperson and promoter for the initiative. This senior-level executive needs to be willing to embrace new initiatives and build support for data initiatives across the organization.

**Data management leader.** Serves as project manager of the committee, responsible for day-to-day operations.

**Business owner.** Brings business insight and requirements to the table for defining procedures, policies, data definitions and so forth.

**Technical owner.** Focuses on metadata and other technical issues. Often represents the IT department perspective and can advise on synthesizing disparate data into one system.

### Data administration and standards

When getting back to basics, the most basic question of all is, “What data do we need?” Ideally, the data ownership organization can conduct an initial review of internal and external data, and identify any gaps. Out of this review can come the creation, documentation and enforcement of data requirements and business rules. At a more granular level, the committee can identify metadata (standard characteristics about information) and strategic relationships among key data entities—all essential components to developing data models that can drive a successful analytics program. As well, enforcing consistent data administration and standards across international companies can drive a cohesive global mindset. Emerging decisions and strategies can benefit the overall enterprise, not just local perspectives.

### Data quality architecture and processes

Architecture can provide a roadmap for maintaining and updating source data and designing a robust, flexible data model and database. Ideally, such a data model and database can evolve with your emerging requirements for database design and metadata management, as well as growing data volumes. You will also need an intuitive, accessible data delivery tool that is adaptable by users with varying skills. As you evolve to high-quality data, you’ll want to explore and implement analysis and measurement tools across the organization. As well, consider incorporating standard methodologies and operating procedures, data quality tools, and data remediation.

Data quality processes often integrate concrete tactics such as implementing real-time data quality filters at points of uncontrolled data entry like the web and analyzing where transaction information is integrated into other systems. A well-designed process will reduce data entry and maintenance points. Documenting data quality definitions and socializing those standards throughout your organization can help with buy-in.

### Data quality measurement, monitoring and auditing

Maintaining data quality is like staying fit. It’s an ongoing process, and you’ll want to maintain data quality levels that continue to support your business. Monitoring programs can range from simple tests to more rigorous, complex exercises. Ideally, these functions should be automated. Audits and data certification (by technical owner) using appropriate tools can help information to retain quality over time. These functions can also track improvements as your data evolves. It can even serve as an “emergency broadcast system” if there are issues—and prevent permanent data corruption.

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### IBM’s expertise helps biopharmaceutical company transform data and analytics.

With no single system of record for HR and a lack of standardization on reporting, one global biopharmaceutical company struggled with data consistency, creating a heavy reliance on HR professionals and IT to generate reports and overcome security challenges.

This company had more than 30 different HR systems around the globe and inventoried over 2,400 reports across geographies. Most regions and countries had their own reporting solutions and generally used reports to fix issues rather than to drive business decisions.

Our client’s goal was to move to a “push” versus a “pull” informational strategy. Their vision sought to provide the right information to the right audience for the right decisions using the right tool. To accomplish this, they wanted to standardize and consolidate reports, leverage existing reporting projects, and institute a consistent look and feel across the organization. In addition, our client was looking to reduce manual effort, optimize self-sufficiency, increase usability and implement a “reporting Center of Excellence (COE).”

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IBM developed a transformation timeline consisting of three phases. The first phase implemented a global template for reporting and analytics. IBM developed a global strategy and used IBM requirements analysis accelerators to streamline and consolidate reports. Through this process, the appropriate global and country-specific reports were implemented under a newly established governance and support model.

The second phase extended the reporting and analytics capabilities while controlling report access based on reporting business unit security. The third phase brought more employees onto the new platform and established projects for ongoing growth.

This company ultimately reduced the number of reports from 2,400 globally to 300, which—along with process changes and data clean-up—enhanced data quality and usability. The organization can now measure primary performance indicators on a global basis, with access to powerful tools through a single portal under the reporting and analytics governance structure. The company now enjoys standardized global reporting, with ease of access through a unified reporting platform; increased data integrity; and consistently defined records for core data, coupled with a global collection point (data mart).

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### **Data quality reporting**

It's essential to verify and review your data quality as it feeds into strategy-driving analytics. Also, effective dissemination of your data quality reports can translate into support for your data program. Make sure your data criteria are clear and communicated across the organization, and use data quality report cards to communicate results to all stakeholders. You may also want to

include highlights on how the data drives analytics and the concrete business insights that result. Such information, well presented, is interesting and worthy of high visibility—perhaps even your organization's annual report.

### **Advancing on your data and analytics journey**

As you contemplate how to move your analytics program forward, you may want to consider the following:

#### **Determine what you need to know.**

Think about the essential questions that drive your organization's strategy and success and hone your data accordingly. Researchers have found that 60 percent of organizations had more data than they could use effectively. Focus and selectivity are key.<sup>9</sup>

#### **Implement a data quality framework.**

Be sure that your organization is not engaged in fragmented, siloed data initiatives. Data gains strength from a holistic, cross-functional approach, like using consistent administration, standards, architecture, governance and change management processes. And measuring, monitoring and auditing your data on an ongoing basis can provide solid data quality to drive more effective analytics.

#### **Don't be afraid to place your most crucial business issues on the line first—and evolve your data focus over time.**

What is the biggest difficulty facing your organization? Make this a target for your initial data strategy. Some researchers believe that large challenges can actually carry lower risk, because they will attract the interest of your top talent, and success will be high profile.<sup>10</sup> Using a phased approach can create a manageable way to start and gain momentum.

### **Leverage the range of analytics skills across your organization.**

As we discussed earlier, data and analytics skills do not always predominate in HR departments. Using a cross-organization data quality framework can take advantage of such skills elsewhere in your company, while allowing your HR professionals the opportunity to get up to speed through professional development.

### **If you do what you've always done, you'll get what you've always gotten.**

Consider this: top performers are 5.4 times more likely to use an analytic approach within their business processes than to rely on intuition. Lower performers are more likely to use intuition to solve their business issues.<sup>11</sup> Your organization's ability to compete and continuously improve is correlated to the data on which it bases decisions. Research shows that only 24 percent of organizations consider themselves "transformed" analytics users, meaning that analytics use is the cultural norm and they have attained the highest level of analytics expertise.<sup>12</sup> Most organizations can benefit substantially from engaging in or enhancing a data and analytics program. Now is the time to begin.

## **Conclusion**

The process of embracing a "back to basics" approach to your data compels you to develop a vision to transform your analytics program—and a strategy to achieve that vision. Serendipity has no role in a data and analytics program. If you don't know where you're going, you won't get there. To stay on track, develop a data quality framework, including a data ownership organization, and make sure that everyone in your company, from sponsoring executives to the staff who enter the data, is aligned and accountable to the vision. You should expect business priorities to evolve and shifts in strategy to be required. By implementing a thorough governance process, your overall program can be measured, evaluated and adjusted at appropriate junctures along the journey. Never underestimate the importance of governance—it can make or break your program.

With extensive intellectual capital in employee and organization data management, IBM can work with you to improve data quality and management and enhance your overall HR analytical reporting program. We have a wealth of experience in implementing data quality frameworks for a range of organizations and can be a valuable asset as you develop a strong internal strategy and governance program. From a technical perspective, IBM's reporting accelerators can provide consistent capabilities for defined global processes in addition to helping you build and implement a unified reporting platform. As your journey progresses, you can also benefit from the expertise of IBM's HR-focused reporting and analytics team.

As you advance toward using data analytics in a more sophisticated way, you'll want to explore new technologies that can help you interpret and act upon your analytics. One recent survey found that over the next 24 months, data visualization, simulations and scenario development, and analytics applied within business processes will emerge to become the most valued analytic techniques. When these tools highlight the value of analytics, people of all skill levels can digest the insights, making support and buy-in easier to obtain. Text and voice analytics, social media analysis and other predictive and prescriptive techniques will gain prominence as well. These techniques eliminate the need for additional interpretation; they clearly present the information and an action plan is often apparent.<sup>13</sup>

The net result is intelligent analysis that can help resolve organizational challenges—which can bolster HR's expanding role as a true strategic peer in the C-suite. IBM can team with you to help educate your executive leadership on the potential of a data and analytics program. And as you solidify "the basics" and progress with your data and analytics, IBM can serve as an integral part of your journey.

## For more information

To learn more about effective employee data management with analytics, please contact your IBM representative or IBM Business Partner, or visit the following website:

[ibm.com/services/hroutsourcing](http://ibm.com/services/hroutsourcing)

Additionally, IBM Global Financing can help you acquire the IT solutions that your business needs in the most cost-effective and strategic way possible. We'll partner with credit-qualified clients to customize an IT financing solution to suit your business goals, enable effective cash management, and improve your total cost of ownership. IBM Global Financing is your smartest choice to fund critical IT investments and propel your business forward.

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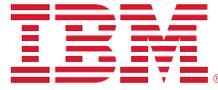
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<sup>11</sup> *Analytics: The New Path to Value. IBM Institute for Business Value in collaboration with MIT Sloan Management Review, 2010, page 2.*

<sup>12</sup> *Analytics: The Widening Divide. IBM Institute for Business Value in collaboration with MIT Sloan Management Review, 2011, page 3.*

<sup>13</sup> *Analytics: The New Path to Value. IBM Institute for Business Value in collaboration with MIT Sloan Management Review, 2010, page 12.*



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<sup>1</sup> *Capitalizing on Complexity: Insights from the Global Chief Executive Officer Study, IBM Institute for Business Value, 2010, page 15.*

<sup>2</sup> *Analytics: The New Path to Value. IBM Institute for Business Value in collaboration with MIT Sloan Management Review, 2010, page 1.*

<sup>3</sup> *Analytics: The New Path to Value. IBM Institute for Business Value in collaboration with MIT Sloan Management Review, 2010, page 4.*

<sup>4</sup> *Analytics: The New Path to Value. IBM Institute for Business Value in collaboration with MIT Sloan Management Review, 2010, page 6.*

<sup>5</sup> *Working Beyond Borders: Insights from the Global Chief Human Resource Officer Study, September 2010, page 18.*

<sup>6</sup> *State of HR Analytics: Facts and Findings from Cornell University Center for Advanced Human Resource Studies, Spring 2011, page 7.*

<sup>7</sup> *McKinsey Quarterly. Are you ready for the era of big data?, McKinsey Global Institute, October 2011. Brad Brown, Michael Chui, and James Manyika.*

<sup>8</sup> *Analytics: The New Path to Value. IBM Institute for Business Value in collaboration with MIT Sloan Management Review, 2010, page 6.*

<sup>9</sup> *Analytics: The New Path to Value. IBM Institute for Business Value in collaboration with MIT Sloan Management Review, 2010, page 2.*

<sup>10</sup> *Analytics: The New Path to Value. IBM Institute for Business Value in collaboration with MIT Sloan Management Review, 2010, page 7.*



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