



The Association of
Accountants and
Financial Professionals
in Business



Building a Team to Capitalize on the Promise of Big Data



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Introduction

Shane Hood is the chief financial officer (CFO) for Total Highway Maintenance, LLC, a highway construction company with fewer than 200 employees. A second-generation family-owned business, the company has experienced significant growth over the last three years. Like any business, Total Highway Maintenance must analyze past performance to inform future strategy and planning. Hood's team used to be able to "cobble" together the data needed for business analytics using various systems and internal resources.¹

"Now," Hood says, "given the size of the organization, it is imperative that our employees have analytical skills to evaluate the information and make informed business decisions." Although business analytics skills are extremely important to the success of Hood's company, the finance team is under-resourced in this area. Hood cites three contributing factors to this skills gap: (1) tremendous company growth in a short time period, (2) a limited number of existing employees with the necessary business analytics and Big Data skill sets, and (3) the adoption of new technology platforms.

Hood's company is not an isolated example. Leveraging Big Data is at the top of many CFOs' wish lists as they look to harness the power and insight they can gain by effectively analyzing their own business intelligence. Despite the availability of advanced algorithms and sophisticated systems, it is the people behind the processes who guarantee the success of these initiatives. Unfortunately, accounting and finance leaders are not only having trouble finding the technical and nontechnical skills they need among existing staff, but they also are discovering that these skills are not easy to identify precisely. That makes it even tougher to recruit talent from the outside—a pool that is already shrinking.

IMA[®] (Institute of Management Accountants) and Robert Half surveyed nearly 500 financial executives and managers to learn how companies are finding and retaining people with the technical and nontechnical skills they need for Big Data analytics projects and to identify effective recruiting, retention and training practices.

¹ We use the term "business analytics" to refer to statistical modeling and analysis of huge data sets to support strategic decision making. It includes business intelligence (converting raw data into useful information), data mining, and customer and market analysis.

There are at least three types of analytics that can be applied to raw data: descriptive, predictive, and prescriptive. The majority of companies use *descriptive* analytics, which describes past performance and its underlying causes. *Predictive* analytics includes internal and external data and uses advanced processing algorithms to predict what will happen in the near future based on specified drivers. *Prescriptive* analytics provides suggested actions that take advantage of the forecasts provided by predictive analytics.



The survey found that accounting and finance teams are being asked to provide strategic data-driven analyses and recommendations using many types of business analytics processes. Other takeaways include:

- Many companies report limits to the business analytics expertise of their financial team.
- Companies are experiencing significant skills gaps in both technical and nontechnical areas, and they are struggling to find and hire people who can fill open positions. In part, this is due to a competitive hiring marketplace for skilled accounting and finance talent.
- Companies can take steps to build teams with in-demand skills by improving compensation packages and training programs.
- In addition to professionals with the requisite skills, other success factors for data initiatives include the right information systems, the support of top management, and cross-functional support.

The Talent Gap

Finding accounting and finance professionals with business analytics skills is difficult, making it especially challenging for department leaders to recruit, develop, and retain people with the requisite abilities. When building their teams, managers most commonly seek skills in financial analysis (87%), followed by budgeting, planning, and forecasting (85%), operational analysis (82%), and cost management (81%).

The research revealed significant skills gaps in many of the areas employers need most (see Table 1), especially:

- Identifying key data trends
- Data mining and extraction
- Operational analysis
- Technological acumen
- Statistical modeling and data analysis

Table 1: Technical Skills Gap

	Important to Success	Possessed by Your Team	Talent Gap
Financial analysis	87%	69%	18%
Budgeting, planning, and forecasting	85%	63%	22%
Operational analysis	82%	54%	28%
Cost management	81%	61%	20%
Technological acumen	77%	50%	27%
Identifying key data trends	75%	46%	29%
Data mining and extraction	71%	43%	28%
Statistical modeling and data analysis	62%	35%	27%
Enterprise resource planning (ERP) systems	61%	40%	21%
Customer lifetime value (CLV)	55%	32%	23%



Exacerbating current challenges is the fact that these skills are not easy for financial professionals to acquire while also performing their other responsibilities. Companies can give themselves a head start by hiring technical specialists to embed in their teams and by purchasing preprogrammed modeling tools that can be easily taught to financial analysts.

No matter how well these technical skills are represented or developed within an organization, however, they are not enough. Successful Big Data projects—those completed on time, on budget, and meeting their specified objectives—also require an array of nontechnical skills.

Shortage of Nontechnical Skills

Nontechnical skills, or “soft skills,” used to be nice to have. Now they are mandatory. In particular, financial leaders want staff to have excellent communication skills, both verbal and written. With accounting and finance professionals increasingly expected to serve as business partners—particularly as experts who can use data analytics to provide strategic recommendations—companies need them to be problem solvers and readily adaptable to change.

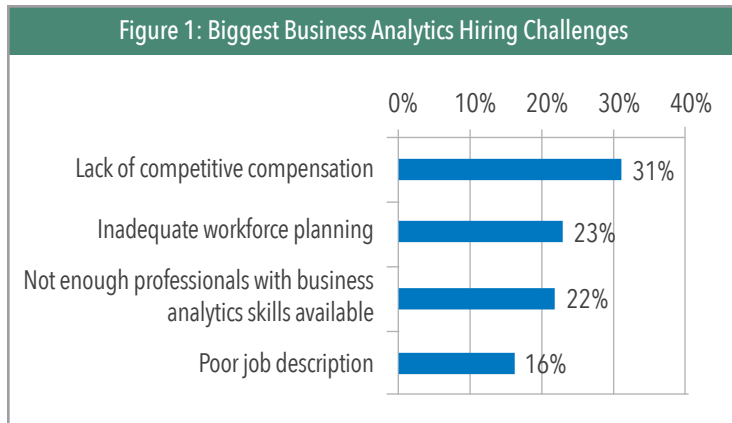
Other soft skills that managers prioritize are:

- Process improvement
- Relationship building
- Strategic thinking and execution
- Industry knowledge
- Leadership
- Decision analysis
- Curiosity—and a willingness to continue asking questions to find the right answer
- Business acumen

In other words, finding data is just part of the equation—and may just be the midpoint in the process. Using their knowledge of the business, staff must also be able to turn the information they mine into actionable guidance. The ability to communicate findings and make recommendations is a requisite for success with data-related initiatives.

Talent gaps also exist here for companies. The most significant nontechnical skills gaps are found in decision analysis (37%), process improvement (35%), strategic thinking and execution (32%), adaptability to change (31%), and communication skills (29%). For employers, these gaps only heighten staffing challenges.

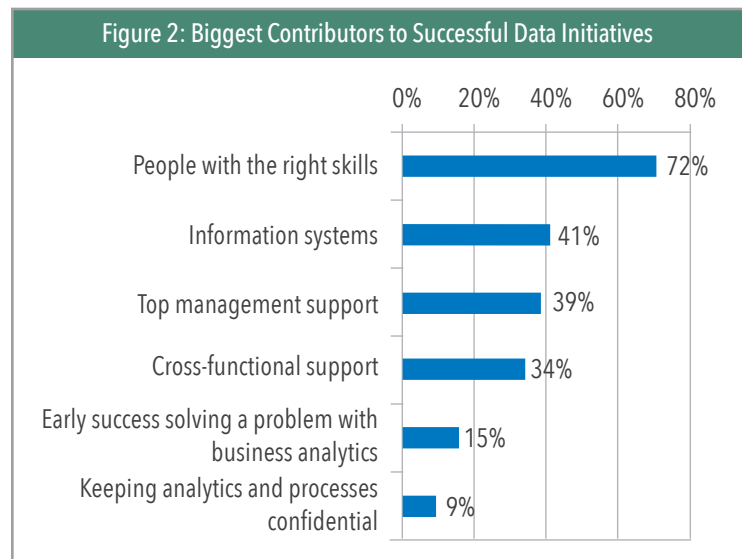
Those surveyed reported several difficulties in hiring staff with business analytics expertise. A shortage of accounting and finance professionals is a common—and persistent—issue for firms, but the research also suggests that other staffing problems are self-inflicted. Financial leaders most commonly reported a lack of competitive compensation as the reason for their hiring challenges, with inadequate workforce planning the second most frequent response (see Figure 1).



Insufficient—or nonexistent—training programs also are a frequent obstacle. In the current employment environment, failure to offer attractive salary, benefits, and career development packages and to employ sound staffing strategies will hinder the success of Big Data initiatives—or any other effort, for that matter.

How to Increase Business Analytics Success

Accounting and finance managers report that, besides a lack of people with the needed skills, the biggest obstacles to success with Big Data projects are resistance to change in the organization and inadequate information systems. Companies that have success with data initiatives maintain the needed information systems and enjoy support from top management and other functions throughout the business (see Figure 2).



Total Highway Maintenance's Solution

Some businesses are finding their way around these barriers. Shane Hood of Total Highway Maintenance describes his approach to addressing the talent gap in three parts:

1. "Train up our existing employees to better understand the data that is being analyzed, what information they should be looking for, and what information should raise a 'red flag.'"
2. "When hiring, we look for candidates who have a foundational understanding of analytics and why it is important to our business to analyze the data and identify trends we can use to proactively manage the business."
3. "We are implementing two new technological platforms (one accounting and one operational), which will provide a seamless portal to obtain real-time data to analyze and proactively manage the business."



As part of their efforts, other financial leaders say they are closely examining the types of roles they need to fill. The most common positions organizations both employ and want to fill are financial analysts, project managers, and business systems analysts.

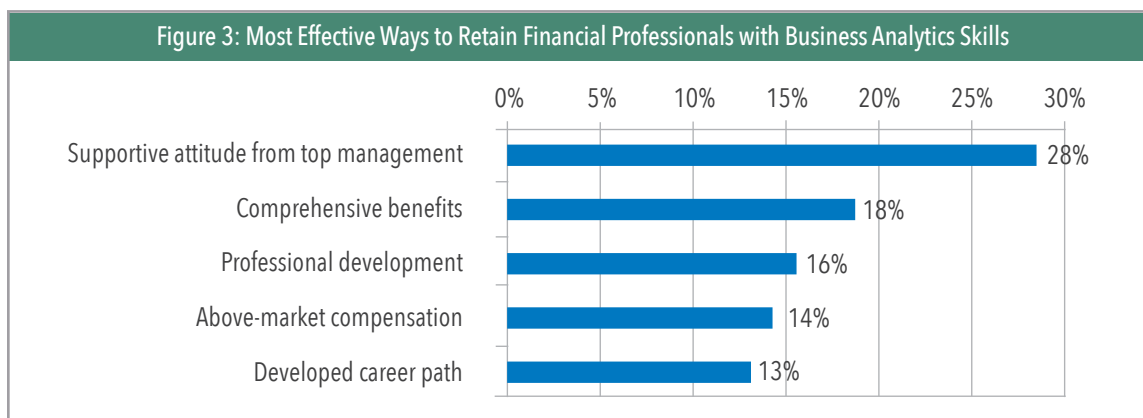
One particular hiring challenge for companies is business intelligence analyst positions. Eighteen percent of respondents would like to fill such roles, but just 9% currently employ these professionals (see Table 2).

Table 2: Sought-After Analytics Job Titles

	Percent of Companies that Currently Have These Jobs	Percent of Companies that Would Like to Fill These Jobs
Financial planning and analysis (FP&A) analyst	35%	29%
Project manager	25%	17%
Business systems analyst	20%	19%
Data analyst	16%	15%
Business intelligence analyst	9%	18%
Data scientist	3%	4%

Retaining Staff with Business Analytics Skills

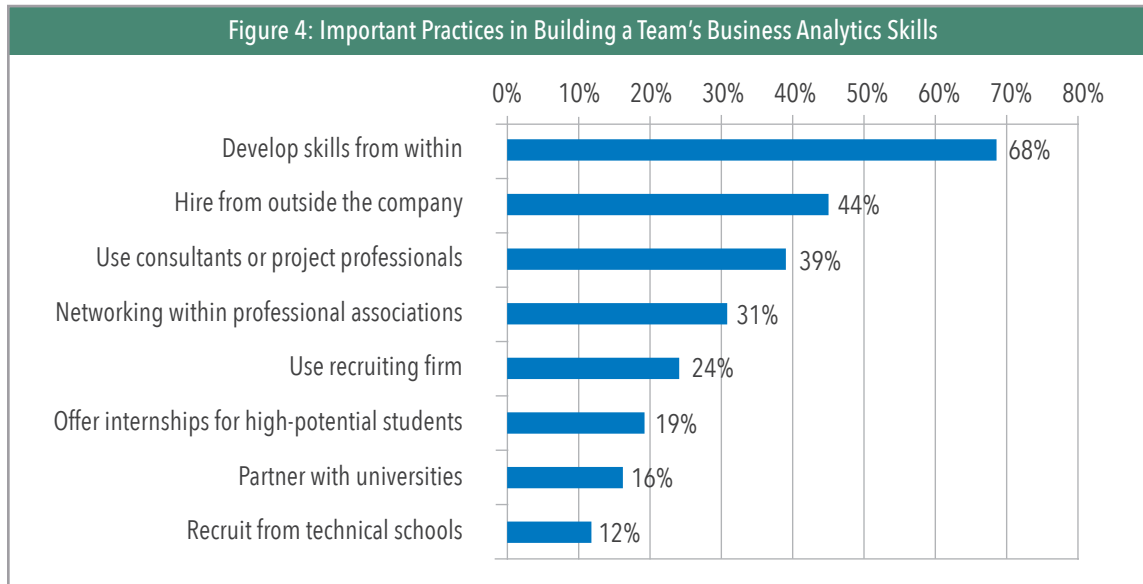
Another way to address hiring challenges is to enhance employee retention. Some companies find it far easier to keep staff with the necessary expertise than to hire new talent. Just 26% of respondents cite difficulties retaining staff with in-demand business analytics abilities, while 48% say it was difficult to hire this kind of talent.



Accounting and finance leaders note that the most effective factor in retaining financial professionals with analytics skills is a supportive attitude from top management (see Figure 3). The study also found that companies succeeding in keeping top performers on board offer attractive benefits and above-average compensation, provide professional development opportunities, and develop career paths for employees. Additional strategies include establishing a supportive corporate culture, helping staff achieve work-life balance, and keeping the work fresh and challenging.



Retention can only go so far, however, since the number of internal employees who already have the required skills is typically limited. That may be why developing from within was at the top of the list of important practices in building a team's analytics skills (68%), as shown in Figure 4.



The most common types of training for these competencies are:

- In-house
- CPE
- Tuition reimbursement

The number of companies stepping up to the training plate is small, however. Only 14% of respondents say their firm offers training related to business analysis.

In addition to internal development, Figure 4 shows successful practices for building a team's analytics skills include hiring from outside the company (44%), working with consultants or project professionals (39%), networking within professional associations (31%), and using a recruiting firm (24%).



What the Research Means for Small and Midsize Enterprises

The survey reveals size-related differences in firms' priorities for Big Data. The majority of respondents at small and medium enterprises or SMEs (defined as 1,000 employees or less), for example, say they place more importance on nontechnical skills than on technical skills as compared to larger firms. The soft skills cited most often in demand are negotiation and leadership.

Fifty-nine percent of smaller companies are seeking employees with business analysis-related skills. In addition, the research found a scarcity of ERP skills at SMEs, presumably because the firms are less likely to have these systems.

Some of these differences may be explained by the fact that smaller firms often do not have complete data to begin with. When asked about the biggest reason for the analytics skills gap in his firm, one healthcare executive said, "Data collection isn't viewed as a high priority in the rank-and-file staff, and therefore the data collected on our clientele is sketchy and hard to analyze since the data variables needed to stratify the data are often missing." When asked what his firm plans to do to address the gap, he said, "We've launched a companywide initiative to make sure the demographic and payer data is entered on every patient every time."

While their needs differ from their larger counterparts, SMEs experience similar difficulties—and successes. Small businesses are being hindered by inadequate compensation and workforce planning. To build their team's skills, SMEs are focusing on developing data analytics expertise from within while also looking to hire from outside the company.

Conclusions

As business analytics and Big Data become higher priorities for accounting and finance teams, finding people with the requisite skills, both technical and nontechnical, is the most important factor for success. Yet it also represents a significant challenge for organizations. Companies seek functional skills ranging from financial analysis and planning, budgeting, and forecasting to operational analysis and cost management, along with soft skills such as communication, problem solving, and adaptability to change. There are significant talent gaps between what is desired and what exists internally within an enterprise.

Some companies are finding an easier road to success by focusing on developing and retaining current staff. Businesses are also communicating the value of Big Data initiatives to gain broader organizational support. Those lacking sufficient data to even begin a Big Data project are upgrading and integrating existing information systems.

Lastly, some firms may need to improve the change management process. Managers unaccustomed to considering data-mined recommendations may be resistant to adopting them, especially when the recommendations suggest a different direction than management is currently taking. In the final analysis, all the good data in the world does not help much if it is not used.



Key Hiring and Training Strategies

- Hire a technical specialist to embed in the current staff to help train others
- Look for candidates who have a foundational understanding of analytics and why it is important to analyze the data and identify trends
- Offer attractive benefits and above-average compensation, and help staff achieve work-life balance
- Lobby for support from top management and other functions throughout the business
- Provide professional development opportunities, and develop career paths for employees
- Train up existing employees to better understand the data, what information they should be looking for, and what information should raise a "red flag"
- Purchase preprogrammed modeling tools that can be easily taught to financial analysts
- Ensure the information systems provide a seamless portal to obtain real-time data that can be used to analyze and proactively manage the business



Respondent Demographics

IMA and Robert Half sent a survey to professionals identified with a job title such as CEO, vice president, CFO, controller, director, or accounting manager in the United States and Canada. A total of 479 responses were received. Tables 3 through 6 provide demographic characteristics of the respondents.

Table 3: Respondent Job Titles

	No.	%
Controller, financial controller, or comptroller	128	27%
Finance or accounting manager	101	21%
Executive officer or vice president	71	15%
CFO	67	14%
Finance director	36	7%
Chief operating officer	5	1%
Other	68	14%
No response	3	1%
Total	479	100%

Table 4: Industries

	No.	%
Manufacturing: <i>Aerospace, Automotive, all other Manufacturing</i>	114	24%
Business Services: <i>Advertising, Consulting, Legal, Publishing</i>	62	13%
Financial Services: <i>Banking, Insurance, Brokerage, Investment</i>	57	12%
Retail: <i>Apparel, Consumer Packaged Goods, Wholesale/Retail</i>	54	11%
Healthcare: <i>Facilities, Payers, Providers, Supporting Products and Services</i>	35	7%
Technology: <i>Biotech, Computer, Software, Technology, Telecom</i>	30	6%
Institutions: <i>Government, Education, Not-for-Profit</i>	55	12%
<i>Construction & Real Estate</i>	31	6%
<i>Transportation & Utilities</i>	18	4%
Other	20	4%
No response	3	1%
Total	479	100%



Table 5: Where Is Your Business Unit Primarily Located?

	No.	%
United States	411	86%
Canada	55	11%
Other	10	2%
No response	3	1%
Total	479	100%

Table 6: How Many Employees Are in Your Organization?

	No.	%
Less than 50	124	26%
51-100	81	17%
101-200	60	12%
201-500	63	13%
501-1,000	47	10%
1,001-10,000	67	14%
More than 10,000	33	7%
No response	4	1%
Total	479	100%