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ORGANIZATIONAL PERFORMANCE

Big data and talent management: Using hard data to make the soft stuff easy

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Abstract Our increasing capacity to collect, store, and analyze large volumes of data has changed the way in which organizational decision makers approach their work. The ability to accurately quantify variables that previously had been assigned to the gut instinct of grizzled veterans or subject to the wisdom of sages for interpretation can now be more objectively understood. The implications for organizational performance are clear: better data and better decisions yield better performance. In many functions, like marketing, this capability has resulted in a true revolution in how companies come to understand and most profitably serve customers. Other areas, such as talent management, have lagged behind in this regard. This is largely due to the fact that many of the relevant variables (e.g., personality) are difficult to measure. It is also because the relationship between these variables and organizational performance is not entirely understood. Recent developments regarding how we understand and then link individual characteristics and performance are enabling a data revolution in the area of talent management. Herein, we offer three examples that illustrate how data can now be used to improve talent management decisions and, ultimately, organizational performance.

1. From data come solutions

Making sound decisions in the area of talent management is difficult because decision makers typically have little or inadequate data from which to confidently draw conclusions regarding which individual best fits any given opportunity. Frustrated, decision makers come to accept that they must trust their intuition and that experience will be sufficient to find the optimal solution. Data—and the wherewithal to properly leverage it—means that no longer needs to be the case (McAfee & Brynjolfsson, 2012). Talent management decisions are not only hard, but also costly when poorly made. When companies invest in either the wrong people or the wrong programs, destined-to-fail teams are assembled and talent management efforts are ultimately eroded. In such scenarios, organizational performance is certain to suffer. Herein, we offer three examples

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that show how the adoption and savvy use of a data-driven talent appraisal system (TAS) helps leaders make better talent management decisions. After all, data is increasingly being used to revolutionize decision making in other functional areas (Malthouse, Haenlein, Skiera, Wege, & Zhang, 2013; Payne & Frow, 2005); shouldn't the same be possible in the area of talent management? Our illustrations show how good data can help leaders protect and enhance organizational performance by improving the quality of talent management decisions.

What has happened to make a data revolution possible in talent management? Over the past several years, vast improvements have occurred in how we understand, measure, and categorize both personality traits and cognitive abilities. Since these individual characteristics do not appreciably change with training, coaching, or incentives, it is critical to identify and understand them when making decisions about who to hire, train, or promote. If a person does not have the cognitive abilities and personality traits suited to a particular role, then even with a great attitude and necessary learned skills they are unlikely to be successful. And if a team does not possess the right distribution of these traits and abilities to accomplish its charge, then its performance is at risk.

So how should valid, rigorous, and relevant data change decision making around talent management? Following are three examples that show how companies in a range of industries have found a way to collect, analyze, and interpret data in a manner that drastically improved the quality of talent management decisions and, ultimately, organizational performance.

2. Failing to harness the power of an all-star team

Our first example focuses on a premier professional services firm that we will call ServiceCo. The firm was rolling out a new line of business that promised to be extremely lucrative and, if successfully launched, would position the firm as the industry thought leader. The new line of business was to be managed by a partner we will call Patrick. Because the initiative was so critical, Patrick was given carte blanche to recruit the best talent from across the firm. With his exciting charge and these considerable resources, Patrick moved quickly to select his dream team of 21 professionals, each a top performer and expert in their field.

Recognizing that each engagement would require different sets of expertise, Patrick envisioned the creation of small teams composed of precisely the right specialists for the engagement at hand. These specialists would work closely with one another to help the client define problems, and then lead ServiceCo's efforts to design an approach and deliver a solution. Once the engagement was completed, the team would disband and each specialist would return to the bench until needed for the next assignment.

The success of this strategy hinged on the ability of each individual to contribute quickly and effectively within a highly collaborative team structure. Patrick assumed that brilliant and experienced professionals could do so because they would recognize it as necessary in order to complete the work and because everyone's incentives were aligned.

Despite abundant prospects and proven market acceptance of the service offering, the dream team achieved just 30% of its revenue goal the first year. How did Patrick initially explain this poor performance? Clearly, the talent was insufficiently trained on the team concept. ServiceCo's human resource department was quickly engaged and a well-executed series of quality training sessions was conducted, focused on the importance of 'teaming.' Teaming banners were hung, teaming buttons were handed out, and teaming terminology was prominently inserted into corporate communications. In case that was not enough, a special retreat was held, featuring a retired NFL quarterback, to emphasize the importance of teamwork to winning championships. Despite these efforts, the number of engagements captured by Patrick's team remained far below expectations. And those engagements that were undertaken seemed to be plagued with delays, conflict, and other frustrations.

After this second false start, an acquaintance suggested to Patrick that perhaps the challenge had to do with who was on the team. Perhaps, they opined, by better understanding each team member's makeup, a real solution might emerge. Patrick sought out a vendor with a diagnostic tool that could collect data to describe the team members and possibly shed light on reasons for the disappointing results. Team members completed a specialized online assessment that offered a psychometrically valid look at the individuals trying so unsuccessfully to function as a team. The upper portion of Table 1 reports the distribution of team members on the three particular characteristics of most relevance to the teaming challenge. The shaded areas in the table indicate the desired levels of each characteristic; ideally, each member's results should place them in one of the shaded areas. Then, the numbers report where the data indicate each team member actually was.

Not surprisingly, the cognitive ability of team members was quite high. Of the 21 individuals, 19 were at or above the 90th percentile in cognitive

Table 1. Comparison of needed vs. actual team member characteristics

ServiceCo: Teaming Challenge
Distribution of Dream Team on Key Descriptors
Value

Anchor	Hi					Low	Anchor
Fast information processor	19	2					Slow information processor
Need to have "best idea"	20	1					Doesn't need to have best idea
Need for control	14	7					No need for control
Independent contributor	20	1					Collaborative contributor

Initech: Solution Sales Challenge
Distribution of Solutions Sales Force on Key Descriptors
Value

Anchor	Hi					Low	Anchor
Can handle complex sales	7	31	45	19	16	2	Can handle simple sales
Adopts adaptive approach	4	20	27	24	30	15	Adopts standard approach
Can control complex sales process	10	42	31	27	10	0	Can handle single point purchases

SGB: C-Suite Challenge
Distribution of C-Suite Members on Key Descriptors
Value

Anchor	Hi					Low	Anchor
Strategic Focus			3	1			Tactical focus
Innovative				3		1	Conventional

Note: Shaded area indicates desired team member characteristics.

ability. More importantly, every single member of the team was identified as an 'independent contributor' in work style: each wanted to be the star of any team they joined more than they wanted to see the team thrive. (Without careful management, projects taken on by such teams will be characterized by myriad battles among members, each seeking to offer the 'best' solution.) All members of the team had a strong need to be in control, and pushed for it in confrontational ways. They were completely comfortable with debate, seeing it as a way to test and refine their thinking.

Talent was plentiful in quantity, but willingness to be subservient to the needs of the team was not. What Patrick had created was like a basketball team where every player wanted to lead the team in scoring. Rather than share the ball to generate the highest score possible, each individual hogged it in order to be the standout. Ironically, it was this high degree of similarity regarding need to be in control that spawned the team's conflicts. All 21 members had a strong and undeniable drive to be the star, to outperform teammates, and to be viewed as right about their ideas. This was powered by each team member's fundamental need to challenge and confront different viewpoints, which in turn was supported by fast cognitive processing and brilliant thinking. This dynamic ensured that significant energy was diverted into endless debates, arguments, and power struggles. It would be hard to find a less collaborative group.

At ServiceCo, very intelligent, well-trained professionals were highly motivated to accomplish clearly defined goals. Unfortunately, the operating plan was developed with no consideration of the distribution of enduring and consequential characteristics of team members. A systematic look at valid data, rather than distribution of autographed footballs, was required to unlock the team's potential. Over the next several months, the operating plan was modified and team members were reselected along more collaborative lines. A set number of leaders were identified, but the majority of the team was reconfigured with professionals whose subject matter expertise added to the team's capability without complicating the direction of the team. A higher percentage of members who were disposed to collaboration rather than competition made the work more synergistic and therefore, more effective. Again, the psychometric data enabled this level of human team engineering. With the talent on the team, a better mapping of the characteristics of that talent, and the operating strategy synchronized, ServiceCo experienced over $20 million in revenue generation from the new offering in the following year.

3. Failing to execute a sales strategy

Our second example focuses on a division of a Fortune 500 corporation that we will call Initech.

Initech occupied a dominant position in a global market. That market was divided into segments, each served by specialty products. The company pioneered much of the technology for the industry, and as a result had a significant installed customer base. Product salespeople introduced new products or product upgrades to their existing customers, while at the same time prospecting for new clients. The company benefited from customer-driven orders, as existing customers expanded their facilities. All of these factors made for a highly profitable and stable business.

As Initech moved into the new millennium, however, its technology became more widely available elsewhere. Competition from a variety of smaller offshore vendors intensified and profit margins shrank. The company was no longer an automatic choice for new customers; even Initech's business of upgrading current customers was being eroded by rival firms.

In response, Initech's executive team decided to change strategy in a way that would favor the company's greater size and range of services. They would move from a product sales strategy to a solution sales strategy. The logic was obvious. Offshore competitors might be able to offer a cheaper version of a few components, but no competitor could match Initech's overall capabilities. The company could present complete solutions, including consulting, expertise, training, and other services. Strategically, it made perfect sense.

A team of 120 salespeople was assembled from individuals within the organization's various market segments. This team was charged with developing and bringing to market a solutions-oriented value proposition that integrated myriad service elements of the company into a comprehensive proposal for customers. A top-tier sales training organization was engaged to school the team in the latest techniques of solution selling. Upon announcement of the shift in strategy, customers and sales team members expressed excited enthusiasm. What was not readily apparent at that time, however, was the extent to which the new strategy challenged the fundamental job capabilities of the sales team.

Traditionally, Initech had served customers through a simple distributor network, serviced by company engineers who specified parts when customers called with a problem. Now the firm had to compete for business by providing broader, value-based solutions to wide ranges of customer issues. This strategy required a much more proactive sales approach. Salespeople had to thoroughly research each client's business to discover sales opportunities through an understanding of that firm's specific goals and tactical issues. Only then could they assemble—collaborating with various technology resources within Initech—an integrated solution to pitch.

Initially, leadership identified training as the bridge between the old product sales strategy and the new solution sales strategy; to this contingent, the transition seemed a simple matter of providing the necessary knowledge and skills to a proven team of successful product salespeople, who in turn would translate that success into sales solutions. What leadership could not see, though, was the way Initech's salespeople were hardwired to faithfully execute the old (product sales) strategy. Over the years, individuals who were not a fit to the old strategy had either been selected out or had selected themselves out of these positions; those who remained were naturally suited to it. These results are reported in the second section of Table 1; clearly, there was a disconnect between the demands of the job and the strengths of the employees. The new strategy was developed sans appreciation of some critical information about the fixed job capabilities of the sales team.

A critical factor for any type of sales strategy is cognitive ability of the salespeople, specifically speed of information processing. Product sales involves a relatively stable set of product knowledge and a defined set of applications. A high speed of processing is not necessary to excel in those conditions. Solution sales are quite different: the offering is generally complex and varies significantly according to the needs and situation of the prospective user.

Another determining factor in sales is ability—in the face of numerous stalls and objections—to persuade prospects to make buying decisions. Much of Initech's product business was based on reorders and updates of existing products. Customers tended to buy rather than be sold. The complexity of the solution sale generates multiple decision points, each of which requires persuasion or closing that part of the sale. As the pricing for solution sales was much higher, the level of persuasion required was much greater. Many of the traditional top sales performers in Initech's product business suddenly found themselves in a completely new sales landscape that was unsuited to their abilities.

Without knowledge of the strengths and abilities of its sales team and how that related to the proposed sales strategy, Initech had deployed a strategy the team could not execute. Despite spending over $2 million on training to support the sales strategy change, Initech's revenue fell to less than 50% of plan. Disappointed, the leadership team redesigned sales processes three times in hopes of improvement; however, each redesign failed to produce

results. Finally, the right question was asked: ''Would it make sense to see if the job capabilities of the current sales team match those required for the current sales strategies?''

An inventory of the strengths and abilities of the sales team was taken using appropriate assessment tools. Results revealed that the 120 salespeople were ill suited to solution selling. Only 32% of existing sales team members possessed the information processing speed necessary to handle complex solution sales, just 20% had the innovative thinking required for adaptive solution sales, and less than 50% exhibited the strength of personality to control a complex multilevel sales process. In total, 56% of the existing sales team lacked one or more of the critical strengths and abilities necessary to execute the solution sales strategy. Clearly, another sales training program was not the answer.

The information provided by the quantitative approach enabled Initech leadership to understand why talented and hardworking people had been unable to realize the full potential of their unique service capabilities. Though no quick solution was at hand, the company now had a clear course of action, both strategically and tactically. And, of course, there was no more wasted investment in training. The majority of the former product salespeople were reassigned to engineering positions that better matched their personal strengths. It also became clear that not everything needed to be sold through a solution. Others were redeployed into their former roles in a more focused product sales business. A strike team of individuals who did have the traits and abilities for solution sales was tasked with engaging priority prospects and key clients, and stabilizing or securing immediate opportunities. Recruiters then used the psychometric data to select additional solution sales professionals to bolster the team going forward. Approximately 1 year later, the company experienced stronger results and its strategy gained traction in multiple areas.

4. Failing to create C-suite synergy

Our final example focuses on the C-suite of a successful software company we will call SGB. An industry pioneer with a very successful start, SGB was losing market share. The leadership team was overseeing a fall into third place in the software business they had created. Although quality was high and current customers were very satisfied, the company continued to lose out on deals.

The SGB leadership team was composed of four members: the CEO, the CFO, the President, and the VP of Sales. An executive strengths inventory of that team was created using two sophisticated online instruments. Two results, reported in the bottom section of Table 1, were particularly telling as regards predominant thinking style of the leadership team. First, the inventory assessed the degree to which executives were on one extreme short-term or on the other extreme long-term focused. The executive team was clustered at the middle of the scale, indicating a tactical focus. In business, tactical issues include profit margins, quality standards, customer service, and product delivery. Strategic issues include potential threats in the marketplace, technological changes in the industry, potential opportunities that might derive from those changes, the dynamics of the economy, and the direction of research and development. Clearly, the makeup of this executive team was set for tactical excellence—and that is exactly what it achieved: strong margins, high quality, excellent customer service, and on-time delivery. What had been missing from the executive team's competencies, however, was the necessary focus on longer-term strategic issues. It isn't that the team failed to do strategic planning; the four members considered strategic issues. The problem was that it was as if no one brought binoculars to the ball game. They could only see so far. What they considered strategic was really tactical compared to other businesses. In effect, competitors with more strategic thinkers out-innovated SGB and out-positioned it in the market. The company was being leapfrogged in its own pond.

Second, results indicated that the team was also stuck in between conventional and innovative thinking. As a group the four members were not locked into convention, but neither were there any advocates for serious innovation. In other words, there was no push to change what had historically proven successful. The leadership team's style focused on incremental improvements: to just keep getting better at what had always been done. Unfortunately, and particularly in the field of technology, reliance on an incremental approach to innovation helps those behind you catch up.

Working somewhat reluctantly with a consultant, two changes were made by the leadership team: one personal and one structural. To introduce innovative thinking styles at the top of the firm, a new head of Research & Development was hired and charged with creating a team to brainstorm fresh ideas and directions for the company. A committee was established—composed of members from sales, manufacturing, customer service, and other areas of the company—to review the ideas generated by the R&D team. The committee, in turn, would then present the most viable ideas to the executive team. This buffer was necessary because the

conventional and too-often confrontational executives would tend to reflexively take pot shots at ideas; the committee's endorsement prompted a more rational evaluation. The company's intranet was configured to provide transparency of information among the senior executive team. Slowly, innovation returned to SGB's operations, and the market responded with more orders. The leadership team did not become magically cooperative and collaborative, but did channel their energy into more productive areas. These improvements built upon an already solid base, and within a few years, having regained a robust leadership position, SGB was sold at a substantial multiple.

5. Final thoughts

Recently, the World Economic Forum (2012) opined that big data represents a new form of economic asset. This perspective is important because it makes clear the opportunity available to leaders who can find ways of leveraging that asset. As is true of any management tool, the analytic approach we describe can be properly or poorly applied. The most important part of doing it properly entails thoughtfully connecting the demands of the job with the focus of the assessment. Focusing on employee characteristics that are truly unrelated to performance will quickly defeat the effort. As a result, the first requirement is to objectively and deeply understand the drivers of performance. Next, it is important to understand how these approaches scale. As we illustrated here, the approach can offer insight regarding the dynamics of a small team of C-suite executives and a large team of sales professionals. As one example, similar tools have been used to evaluate the capabilities of an entire healthcare organization to deliver customer-centered service. Generally, as the sample becomes larger and more diverse (e.g., encompassing many organizational levels and functions), the questions asked and conclusions reached both become less specific.

In the area of talent management—and particularly as regards understanding how to improve the effectiveness of a team—we think the opportunity offered by big data is great. Companies have struggled to get the most out of teams because it is difficult to insert the right people into the right roles. The track record to date is bad not because managers are incapable or disinterested; it's simply because these are often hard decisions to make. There is every reason to believe that teams will continue to be critical building blocks in organizations of all types. This is going to be true from the C-suite to the shop floor of companies, large and small.

While managers may have experience at creating teams, they have had to develop that skill without the benefit offered from the combination of valid and reliable measures of both personality and cognitive ability with an appreciation for the team dynamic necessary to accomplish team goals. That benefit is increasingly available and, when properly leveraged, can provide important insights regarding what will make a team successful. In each of the three cases reviewed here, the ability to see how individual attributes—sometimes alone, sometimes in combination with those of others—created significant barriers to organizational performance. The profiled managers' best efforts to rely on experience and intuition were failures. Only with the insight that data offered could the barriers be identified and addressed; in each case, doing so led to extremely positive organizational outcomes. Over the next few years, leaders that understand the way such data can be leveraged as an asset and used to build teams will enjoy enhanced returns on investments in talent.

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