

# *CEO Working Paper Series*

Using Workforce Analytics to Improve Strategy Execution

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No society can provide its members with a high quality of life unless it has effective organizations.

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## Abstract

In this article I introduce an approach to conducting workforce analytics that is designed to improve strategy execution and organizational effectiveness through the application of systems diagnostics. What differentiates the approach are two analytic steps which precede the analyses that are typical of workforce analytics today: competitive advantage analytics and enterprise analytics. Conducting these two additional steps enables the analyst to identify the critical business issues that are the biggest problems for senior business leaders, and to determine if structural issues coming from the organization design and culture are at play. First conducting those analyses best enables traditional workforce analytics to provide insights the organization's leadership views as truly valuable.

How can we more effectively execute strategy through our workforce, and what role should analytics play? That is the question that frames the call for papers in this special issue, and it perfectly describes the fundamental workforce analytics challenge facing organizations today. In this article I argue that we need a different orientation to how workforce analytics is defined and conducted in organizations: a much greater emphasis on systems thinking and diagnostics. The good news is that the models and tools already exist to do this. The challenge is getting both the leaders of workforce analytics efforts to change their orientation and usual practice, as well as raising the awareness of the importance of systems diagnostics among the consumers of the results of workforce analytics: the business leaders / end users in organizations who are in a position to act on the results.

The challenge is that most practitioners and researchers take a straightforward, but too-narrow, approach to determining if a workforce analytics effort adds value: they look for examples and case studies where workforce analytics demonstrates some type of strategic benefit or positive return on investment (ROI). If they find a positive impact they consider the job done. At face value, that is a reasonable approach because an economic benefit is established. Yet demonstrating an economic benefit is not the same thing as prioritizing which organizational challenges should be addressed first. That is the challenge with the current state of workforce analytics: a horde of analyses that can, and often do, help with continuous improvement of existing HR and people processes, but with little guide for business leaders on how to address the highest priority issues impeding successful strategy execution (Levenson, 2011 and 2015).

For example, workforce analytics is often used to show how to improve recruiting, training, workforce planning, performance management, employee engagement, and many more core HR and people-oriented processes. In each case, when done well, workforce analytics shows clear paths to improvement in terms of candidate profiles, screening procedures, training programs, performance feedback, supervisor behavior, employee motivation, etc. Yet asking how to improve any given HR process is not the same thing as identifying what parts of the organization and which business processes are in greatest need of insights. The help that most business leaders would like to get from workforce analytics, yet which is too-often lacking, is around solving issues with business performance that manifest themselves at higher levels of aggregation than the individual (Levenson, 2015).

I see a large source of the problem as originating from the focus of management researchers and social science practitioners in organizations who themselves are not oriented toward taking a systems approach when doing organizational behavior diagnostics. I firmly believe a large part of the problem is not aptitude but rather preference and habit. The field of organization behavior, as well as

industrial-organizational psychology and other disciplines, do not require that people be systems thinkers. Experts in employee motivation or capability can spend their entire careers, whether they are in academe, consulting, or internal practitioner roles within organizations, focusing only on individual level issues, and making real contributions to improved behaviors and performance. Their aptitude in doing so is manifested in the current practice of workforce analytics, which is overwhelmingly focused on individual level issues in organizations and not group level, more aggregated issues (Levenson, 2015).

What I advocate for is a “both/and” approach. The current, highly individually-oriented workforce analytics approaches do not need to be thrown out. In fact, under a systems approach, all of the individual-level models and ways of conducting analyses still have a very critical role to play. The issue is where to start when framing the questions to be addressed, and whether the ultimate focus ends up being individual-level issues and models, or group-level issues and models, or a combination of both. So the first step of any workforce analytics exercise should start at the organization/enterprise, or business unit, or work group/team levels, and identify the critical business issues at stake. If the issues are entirely group-level or at a higher level of aggregation, then that should be the focus of the analysis. If the issues also relate to between-person differences that need to be analyzed, then the more traditional workforce analytics models and analyses can be applied. If multi-level modeling and analysis are needed, then they should be applied. Moreover, regardless of the levels of aggregation at which the analysis is done, everything should be categorized and prioritized based on whether the insights will help with continuous improvement of organizational processes or whether they will help address the biggest barriers to improved strategy execution and organizational effectiveness.

To illustrate what I mean, consider a couple of points of evidence. First, it is widely acknowledged that there is a fairly large gap between the research conducted by academics and the knowledge used for management decisions, especially with regard to people and HR practices (Rynes, et al., 2002; Shapiro, Kirkman and Courtney, 2007; Rousseau, 2006; Rynes, 2010; Mohrman, Lawler, and Associates, 2011). Second, there are many examples of findings from management research that are not well understood and/or applied by managers (Rynes, et al., 2002; Rousseau and Boudreau, 2011); yet the examples that are cited relate predominantly to specific HR practices such as the pros and cons of using of stock options, using intelligence to predict employee performance, the validity of integrity tests, the benefits of goal setting, errors with performance appraisal, measuring the importance of compensation for employee decision making, and using utility analysis for selection. There are examples where the focus is on phenomena at a higher level of aggregation than individuals and roles (for example, Offermann and Spiros, 2001). Yet those are much more the exception than the rule: the

predominant emphasis of workforce analytics is precisely that – the workforce, and usually not a broader domain of organizational effectiveness.

Even within the “narrow” domain of workforce analytics, there is no shortage of approaches to be applied and questions to be addressed. The challenge is knowing which analytics to apply in what settings to get the best strategic insights. In this article I address that question, framed as “where will workforce analytics provide the deepest insights into improved strategy execution?” Defining the goal as improved strategy execution sets the focus apart from where much of the field is today. Current research and practice cover enormous territory, drawing analytic frameworks from many different approaches that represent the rich history of workforce analytics in the social sciences. Yet that rich history and diversity is also a source of confusion and distraction for leaders who want to close the biggest gaps in strategy execution: where they want simplicity and clarity, they instead face a dizzying array of analytic topics and approaches with little to guide them.

To cut through the clutter I propose two separate but related approaches: (a) *focus on strategically important changes in workforce and organizational capabilities*, not just incremental improvements in people and processes, and (b) *focus on contributions that support the organizational capability that provides competitive advantage*, not just contributions that have positive short-term ROI or impacts on cash flow. Another way of stating the proposed approach is “some improvements in organizational processes and capabilities are more important than others, and investments in the most important capabilities and processes can generate high short-term ROI compared to other spending choices.”

My critique consists of two parts. First, current practice in organizations does not take enough of a systems approach at both the individual and group levels. Second, though there is guidance within the research literature on how to take more of a systems approach, the way that knowledge is shared between the research and practitioner communities often ignores the systems approach. My emphasis on organizational capabilities is a central part of the message; in my view, these are the capabilities that create sustainable competitive advantage for organizations. For example, the organizational capability of innovation is distinct from the individual competencies of the market researchers, R&D scientists, and software programmers who, depending on the industry, are part of the innovation process. Further, I focus on strategy execution and group performance, whereby the organization’s overall strategic objectives are attained, rather than individual job performance, because of the line-of-sight and aggregation problems when going from individual to group performance.

The source of the problem in my view is not a lack of knowledge in the research and academic communities, but rather a failure to effectively translate that knowledge into the useful information workforce analytics practitioners need to get deeper and more impactful insights from their analyses. Moreover, I see the source as arising from both groups of players: there is not enough systems thinking and diagnosis both among the workforce analytics experts (academics, consultants and internal practitioners) and among the end-user HR professionals who seek to make their work more relevant and data-based through the application of workforce analytics. In short, the experts don't guide the end users enough toward systems analysis, and the end users aren't oriented enough toward that perspective to ask for it on their own.

I start with a cursory review of the general approaches taken in workforce analytics today, and an acknowledgment of the deep insights that they have provided historically, along with gaps in strategy execution and organizational effectiveness not adequately addressed by current common practice. I then present an alternative approach that involves conducting two analytical steps preceding traditional workforce analytics: competitive advantage analytics, and enterprise analytics. Competitive advantage analytics comes first, and involves prioritizing the business issues to ensure that any group-level and individual-level analyses are closely aligned with specific business challenges, and to ensure that the value of addressing a specific business challenge is understood relative to addressing alternative business challenges. Enterprise analytics comes second, and is my shorthand name for any analyses conducted at an aggregate level above the individual. The third step is to apply, if needed, human capital analytics, which I use to refer to traditional workforce analytics approaches that focus exclusively at the individual level.

The reader should know that I see real value in the vast majority of workforce analytics approaches currently being used in organizations today. However, based on my personal experience working with companies worldwide applying workforce analytics using an action research approach, teaching executive education programs in HR analytics for over ten years, and reading of the state of the field, my firm conclusion is that there is little consistency in approach, and even less guidance that enables practitioners to target their efforts in the most value-maximizing way. What we have today is a scattershot approach to workforce analytics that in many ways resembles the wide array of analytical approaches taken to measure virtually everything related to people and organizational effectiveness in the management research literature.

Each analytical approach that is derived from the social science literature has at minimum *some* potential value to people working in organizations. The question is how much value, and where is that

value best realized. The additional steps I advocate at the beginning of a workforce analytics effort help identify which social science models and methods should be applied in what settings to provide the most actionable insights to the practitioners working on the front lines. My approach has the further advantage of helping identify when qualitative analysis and interviews are sufficient for diagnosis, removing the need – and strong tendency among workforce analytics practitioners and researchers – to immediately jump into large scale data analysis employing elaborate statistical techniques that may be of little value.

This article is closely related to my book *Strategic Analytics* (Levenson, 2015) and is best viewed as a companion piece that covers a great deal of ground not addressed in the book. Specifically, the book is targeted primarily at a practitioner audience with the aim of shaping and changing the way the practice of workforce analytics is conducted in organizations; it aims to make the end user more savvy with respect to understanding and demanding more of a systems diagnostic approach. This article, in contrast, places the book in the context of the research literature, while also extending the arguments introduced in the book to address how workforce analytics is taught and led by researchers, consultants, and internal analytics experts working with or within organizations. My aim here is to sway the workforce analytics experts in all three realms (academe, consulting, and internally within companies) to take more of a systems approach when addressing workforce analytics questions that will be consumed by the end users.

The primary audience for this article first and foremost is the Ph.D. and Masters level social scientists who define, lead, teach and write on the topic of workforce analytics. A large part of this primary audience is the professors who influence the field through their writing, including for outlets such as this journal, and who teach the principles of workforce analytics to undergraduate and graduate students. The rest of the primary audience are social scientists working directly with companies to apply workforce analytics, either as consultants, in-house experts, or action researchers. These two groups are not mutually exclusive: there is substantial overlap between them. The secondary audience is the workforce analytic practitioners and HR generalists who want a more rigorous introduction to some of the principles behind different approaches to workforce analytics, including the research foundations behind the book.

One way to think about the issues addressed here is that workforce analytics can be likened to a symphony orchestra and its component parts. Taking a systems view is like being a conductor of the symphony: it is the conductor who has to see the big picture and know how to get each part of the symphony aligned and executing its tasks in the exact right order to make beautiful music. The

conductor does the equivalent of competitive advantage analytics to ensure that the overall goals of the symphony can be realized.

Within the symphony there is each section of instruments: the wind instruments, string instruments, etc., and subgroups within each of those, often with leaders at each level. Sometimes the challenges with getting the orchestra to perform properly are group-level challenges within these groups and subgroups. Figuring out and solving those challenges is the equivalent of enterprise analytics.

Finally, there are individual level issues. Some musicians don't understand their roles well enough, or don't have the competencies or motivation to perform their duties as needed by the orchestra. Addressing those issues is the equivalent of human capital analytics.

### **The prevalence and impact of workforce analytics in organizations today**

Lawler, Boudreau and Mohrman's (2006) and Lawler and Boudreau's (2009, 2012, 2015) triennial surveys of the HR function provide the best depiction of how broadly workforce analytics has been used in large organizations over the past decade, and how far it still remains from providing the insights needed for improved strategy execution. Table 1 reproduces some of the data they report.

| <b>To what extent does each of the following describe the way your HR organization currently operates?</b> | <b>Little or No Extent</b> | <b>Some Extent</b> | <b>Moderate Extent</b> | <b>Great Extent</b> | <b>Very Great Extent</b> |
|--|----------------------------|--------------------|------------------------|---------------------|--------------------------|
| <b>There is a data-based talent strategy</b>   |                            |                    |                        |                     |                          |
| <b>2013</b>  | 21.1                       | 31.0               | 28.2                   | 16.9                | <b>2.8</b>               |
| <b>2010</b>  | 17.9                       | 25.5               | 29.9                   | 20.7                | <b>6.0</b>               |
| <b>2007</b>  | 18.3                       | 29.8               | 31.7                   | 16.3                | <b>3.8</b>               |
| <b>2004</b>  | 19.4                       | 27.6               | 27.6                   | 16.3                | <b>9.2</b>               |
| <b>Provides analytic support for business decision-making</b>  |                            |                    |                        |                     |                          |
| <b>2013</b>  | 14.7                       | 28.7               | 39.9                   | 14.0                | 2.8                      |
| <b>2010</b>  | 11.4                       | 27.7               | 32.1                   | 23.4                | 5.4                      |
| <b>2007</b>  | 13.2                       | 25.5               | 34.0                   | 18.9                | 8.5                      |
| <b>2004</b>  | 15.3                       | 17.3               | 37.8                   | 19.4                | 10.2                     |
| <b>Provides HR data to support change management</b>   |                            |                    |                        |                     |                          |
| <b>2013</b>  | 9.2                        | 31.0               | 34.5                   | 19.7                | 5.6                      |
| <b>2010</b>  | 9.2                        | 25.4               | 28.6                   | 28.6                | 8.1                      |
| <b>2007</b>  | 9.4                        | 19.8               | 37.7                   | 22.6                | 10.4                     |

|  |                            |                    |                        |                     |                          |
|--|----------------------------|--------------------|------------------------|---------------------|--------------------------|
| 2004   | 5.2                        | 23.7               | 34.0                   | 23.7                | 13.4                     |
| <b>Makes rigorous data-based decisions about human capital management</b>  |                            |                    |                        |                     |                          |
| 2013   | 21.0                       | 31.5               | 35.0                   | 10.5                | 2.1                      |
| 2010   | 17.8                       | 26.5               | 29.7                   | 20.5                | 5.4                      |
| 2007   | 18.9                       | 29.2               | 30.2                   | 14.2                | 7.5                      |
| 2004   | 16.5                       | 20.6               | 41.2                   | 17.5                | 4.1                      |
| <b>To what extent do you consider your information technology system to ...</b>  | <b>Little or No Extent</b> | <b>Some Extent</b> | <b>Moderate Extent</b> | <b>Great Extent</b> | <b>Very Great Extent</b> |
| <b>Measure HR's impact on the business</b>   |                            |                    |                        |                     |                          |
| 2013   | 31.7                       | 27.3               | 26.6                   | 13.7                | 0.7                      |
| 2010   | 31.0                       | 29.3               | 25.0                   | 12.0                | 2.7                      |
| 2007   | 28.7                       | 35.6               | 18.8                   | 14.9                | 2.0                      |
| 2004   | 37.1                       | 25.8               | 26.8                   | 9.3                 | 1.0                      |
| <b>Note: The dates listed in the table correspond to when the data was collected in each survey. In each case there is a two-year lag between data collection and the publication of the book.</b> |                            |                    |                        |                     |                          |

**Table 1: Current state of workforce analytics in large organizations.** *Source: Lawler and Boudreau (2006, 2009, 2012, 2015).*

On the one hand, over 90 percent of large organizations report that they provide HR data to support change management at least to some extent, and over 80 percent provide analytic support for business decision making to some extent or more. Yet the percentage of organizations indicating they do so to a great or very great extent ranges between only 16 and 37 percent for both questions. So at least two thirds of organizations have room improve in these areas, and by a substantial amount in many cases.

The bottom part of Table 1 presents another view of the current state: the link between enterprise IT systems and HR analytics. Enterprise IT systems are almost ubiquitous in large organizations; the question is not whether there is one, but rather which one and how many bells and whistles the system has. In my and my colleagues' work with companies on HR analytic issues, we often hear the lament that the HR function is challenged to "do something" with the company's fancy enterprise IT system to show the value of the data collected in it. Such demands from business leaders are understandable given the enormous sums spent on the IT systems, and the expectations of great insights created by the vendors that promote the systems.

Yet Lawler, Boudreau and Mohrman find that the vast majority of company IT systems are not used to measure consistently the business impact of HR programs (bottom of Table 1). The disconnect exists because the systems' data are used primarily to describe people (demographics), how much they

are paid (compensation), and their activities (promotions, training, etc.) and responsibilities (job titles, reporting relationships, spans of control, etc.) in the organization. Such data are very useful for some types of analyses but they lack key elements needed to understand the employee behavior and motivation that drive most organizational performance.

Social scientists understand those limitations, which is why they put so much effort into developing and implementing employee surveys, 360 evaluations, competency profiles, and more. These and related measurement approaches shed incredibly important insights into a variety of aspects of workforce behavior and motivation, which is why they are the focus of the discussion in the next section.

Yet despite the limited insights provided by standard warehoused data, business leaders put great stock in analyses of those data. They do this for two related reasons (Levenson, 2015). First, data that are part of enterprise IT systems are central to how business leaders maintain and optimize operations: they provide objective measures that link directly to outcomes that support competitive advantage. In manufacturing, data on uptime, waste, quality, and more are vital to maintaining efficient and effective operations. In call centers, metrics on wait times and customer service scores are a backbone of operational excellence. In financial services, measures of customer retention and profitability are crucial for knowing how to staff and market to different customer segments. And so on. Every industry has objective operational metrics that are essential to understanding and managing the business; leaders know this and expect that all functions, including HR, should be able to use their enterprise IT systems for similar insights.

A second related reason is that leaders love to benchmark. The objective operational metrics they use to manage the business lend themselves extremely well to comparisons across organizations. There is a vast army of consultants who make their living providing benchmark data on any dimension imaginable, and in many cases those data providing important insights on where operations can and should be improved to support competitive advantage. In comparison with the other types of data warehoused in enterprise IT systems, the HR data that reside there are suitable for benchmarking because they are objective, just like the other operational and financial metrics in the IT systems. Yet the value of benchmarking is very different for HR metrics compared to other operational metrics. In most cases, benchmarking HR data such as turnover, spans of control, time to fill open positions, compensation, and more can provide some useful insights, but rarely is that data enough to determine the best course of action; much more analysis and other data sources are almost always needed to determine how best to support competitive advantage.

The main reason for this divergence is that HR data historically were collected for accounting purposes, not to inform more of a decision science approach to analyzing the workforce (Boudreau and Ramstad, 2007). Yet because leaders heavily emphasize objective operational metrics and benchmarking, they also overly focus on those types of HR data despite their limitations. This provides a very strong lure for HR professionals to make warehoused HR data a central part of their analysis strategy because otherwise they have to defend why they are not doing so.

The good news is that annual employee surveys, which exist apart from enterprise IT systems, have also taken on a mantle of respectability as more and more business leaders have embraced the importance of having highly engaged employees. The surveys are used to monitor how employees feel about the organization, their jobs, and their careers. If the positive scores deviate too much from an expected norm, the results can be used for feedback with the supervising managers so they can improve their performance.

The downside, however, is that large segments of the parties involved – the business leaders, HR professionals and survey consultants – subscribe to the idea that the constructs that come out of those surveys are often the only thing that needs to be measured and managed to improve operational performance (Levenson, 2014). Even worse, they often fall into the trap of thinking there is an objective “amount” of engagement that should be achieved – such as at least 80 percent favorable responses on all survey items, or scores that are better than their industry peers. What is missing in those situations is the appropriate lens through which to view such data, and a framework to understand what they mean and how they should be interpreted. The answer lies in taking a more holistic, systems view of both individual and group performance, using an approach such as the one advocated here.

### **What works well and what is missing in the world of workforce analytics today**

Much of the guidance that business leaders and HR professionals need to make better sense of their enterprise IT and employee survey data is available by applying established social science techniques and measurements. In recent decades many different analytical approaches that originate from the social sciences have been applied within organizations to varying degrees, which has been a very positive development. In this section I briefly review a number of them.

Unfortunately there are, if anything, way too many options for conducting workforce analytics in organizations. Any one of them can be used to tell a story about what could be important for organizational success – and at face value all of them would seem to be at least somewhat relevant if not very important. In this section I briefly review some of the most popular based on the types of

insights they provide. In the next section I address how to best employ them to identify the most critical sources of organizational effectiveness.

The overall approach I advocate is related to multilevel modeling and estimation issues in organizations (Klein, et al., 1994; Klein and Kozlowski, 2000), specifically the micro-foundations of strategy and the resource-based view of the firm, including the role of social capital in helping to create competitive advantage (Burt, 1997; Nahapiet and Ghoshal, 1998; Tsai and Ghoshal, 1998; Leana and Van Buren, 1999; Leenders and Gabbay, 1999; Buller and McEvoy, 2012). My main critique of current workforce analytics practice is that it focuses too much at the individual level, when the right approach often is either a multilevel approach that address both individual and group (team, business unit, function, site, etc.) issues, or even just group-level issues.

The body of work in the management literature that successfully addresses multilevel issues related to human capital and organizational performance is rich and growing. The field of workforce analytics needs greater guidance from social scientists who understand and contribute to the literature on the modelling and estimation challenges involved with multilevel theory and estimation especially in the areas of human capital and HR (Dess and Shaw, 2001; Reagans and Zuckerman, 2001; Ployhart, et al., 2009; Ployhart and Moltinero, 2011; Ployhart, et al., 2013; Ployhart, et al., 2014; Reilly, et al., 2014). What follows here is a brief overview of specific methodological issues that I believe should be addressed at both the individual and group levels so that workforce analytics practitioners can be guided to provide the insights most capable of improving strategy execution and organizational effectiveness.

The approach I recommend is to start with the business strategy and the overarching objectives senior leaders are trying to accomplish in the marketplace. Identify the critical business issues that need to be solved first, and determine what can be done to address them. This first step is what I call competitive advantage analytics, and is discussed in detail below (Figure 1). The reason why it's an important first step is because it helps separate "nice to have" and incremental improvements in people and processes that *could* have a big impact on business success from the ones that *should* have a big impact through successfully addressing the barriers to improved strategy execution.

Because of budget constraints, every single role and business process can always benefit from additional resources and support. If the bar for deciding what to change in an organization is set as "will this change have a positive impact on the business" it is very easy for a horde of potential organizational changes to clear that hurdle. For example, a leadership development program that improves the quality of communication between managers and their direct reports is a worthwhile endeavor if it is effective. Yet communication problems may not be a high priority problem for the organization. Imagine a

scenario where the organization has scrimped on the compensation paid to some key roles for a number of years. As a result, the people currently in those roles are less motivated to perform and have lower competency levels than the organization expects. The subpar motivation and task execution leads to regular conflicts with their managers who are frustrated with their performance. An observer who does not know about the compensation challenges might mistakenly conclude that developing better leadership communication skills is the best solution to the problem. Yet under that approach, at most the managers might learn how to minimize open conflict while not adequately addressing the underlying performance problems that are the real source of strategy execution gaps. In this case improved communication is “nice to have” while compensation is the real source of the performance problems.

Any organizational change, no matter how clear the bottom line benefits might be, is not guaranteed to be implemented successfully. Consequently, I have seen repeatedly that it is easier to get senior leader buy-in and support for changes that are more critically important to improving business results and strategy execution. The first step of conducting competitive advantage analytics and prioritizing what workforce analytics issues should be addressed helps maximize the chances that any diagnosed change will be given the green light to be implemented.

The second step is to look at the appropriate level of analysis and identify the highest-level issues rooted in the work design that might be barriers to improved performance. This is the step I call enterprise analytics (Figure 1). Depending on the particular issue in question, this could mean looking at the entire organizational design, the design of specific business units or functions, the design of geographies or sites, the design of work groups or teams, or the design of specific roles – or a combination of two or more of these. Using the language of the multilevel modeling literature (Klein, et al., 1994; Klein and Kozlowski, 2000), enterprise analytics encompasses any analysis at a higher level of aggregation than individual people or roles. Specific topics include group dynamics, culture, organizational change and any topic that addresses business processes at an aggregate level, including the role of organization design and cross-silo collaboration for driving innovation, customer service, go-to-market effectiveness, sales and marketing, and more.

The third step, which I call human capital analytics (Figure 1) encompasses any analyses done at the individual people or role level, and is the domain of what is traditionally considered workforce analytics. Specific topics include motivation, employee engagement, competencies, leadership development, training, compensation, and more. In addition, any analysis that seeks to explain business processes through the lens of individual differences falls into this bucket. For example, analyses of the

sources of variation in performance across people working in specific roles such as sales, marketing, customer service, software development, distribution, and more.

Before getting into the details of my approach I first review the six general domains of that cover the landscape of organizational behavior topics addressed by social science. In order to conduct the type of systems diagnostics I recommend, each of the six domains has to be considered to determine what drives the behaviors and performance most critical for improving strategy execution: individual capability, motivation, job design, organizational capability, culture, and organization design.

**Individual capability, motivation and job design.** One of the bedrocks of industrial-organizational psychology is the Capability-Opportunity-Motivation (COM) model (Blumberg and Pringle, 1982). Though the three elements of the model are not always called those names, much of what matters at the individual or role levels can be grouped under one or more of those three parts.

*Individual capability.* Capabilities and competencies are often used synonymously. The importance of competencies as a measurement tool for workforce analytics is clear. Competencies evolved as a way of objectively describing the knowledge, skills and abilities required for a specific job (Spencer and Spencer, 1993). They are a vast improvement over measures such as intelligence and job descriptions. Today they are the foundation of much work on employee capability and what is needed for successful job performance.

Organizations use competencies to evaluate, reward, and promote employees across a wide range of industries (Briscoe & Hall, 1999; Lawler & McDermott, 2003). Competencies can provide a method for predicting job performance for individual workers in nonmanagerial roles (McClelland, Baldwin, Bronfenbrenner and Strodbeck, 1958; McClelland, 1973; Spencer & Spencer, 1993). Competency-based pay for frontline workers also can be an effective tool to promote the development of skills that improve productivity on the job (Ledford, 1995; Ledford and Bergel, 1991; Ledford, Tyler and Dixey, 1991).

Competencies increasingly have been used for selecting, rewarding, and promoting managers (Boyatzis, 1982; Goleman, Boyatzis & McKee, 2002; Zenger & Folkman, 2002). However, there is only a tenuous link at best between managerial competencies and organizational performance (Hollenbeck & McCall, 1997; Levenson, Van der Stede and Cohen, 2006). One reason for the tenuous link is because measuring competencies and linking them to individual and other performance measures is only one part of the analytics needed to diagnose the drivers of performance at the individual level. A more comprehensive approach that addresses motivation and job design almost always will yield better diagnostics and action plans than focusing only on competencies.

*Motivation.* A central problem faced by leaders and frontline managers alike is how to elicit the motivation and effort the organization needs for successful task execution and operational excellence; without motivation, job performance is virtually guaranteed to suffer. Consequently, the study of employee motivation is as old as the field of management study; for example, see Vroom (1964), Porter and Lawler (1968), Herzberg (1968), Maslow (1970), Lawler (1973), Steers and Porter (1991), and Latham (2007).

Some common motivation-related constructs that have been successfully developed in the research literature and often appear in annual employee surveys include job satisfaction, supervisor support, opportunities for development, work-life balance, pay satisfaction, and intention to turnover. Getting management to pay attention to such measures usually is not difficult because they have very strong face validity: it is easy to see the direct link between any of these measures – and many more – and the motivation desired of employees. That is the good news.

Less helpfully, more recently, many consultants have combined parts of different constructs together under the general umbrella of employee engagement and marketed them as essential management tools (Levenson, 2014). What has been adopted in a wide swath of organizations usually are not the multi-item constructs that come directly from the research literature (Fields, 2002), nor the specific measures of engagement that have been more recently developed (Macey, Schneider, Barbera, and Young, 2009; Bakker and Leiter, 2010), but instead single item measures that are reported on their own or as part of a composite index. Gallup's 12 item measure is perhaps the most well-known, and has been the subject of some validation research (for example, Harter, Schmidt and Hayes, 2002). Yet the Gallup measure has the same predictive ability as a single item job satisfaction measure (Levenson, 2014), a trait almost certainly shared by other similarly constructed indexes.

A further problem is that these and other measures of employee engagement are marketed into organizations as causal measures of organizational performance: the promise is that improvements in the measurements will necessarily lead to better strategy execution and organizational effectiveness. Aside from the co-determination problem – measured engagement and performance often are interdependent and codetermined – such sales pitches ignore the importance of the other main determinants of individual job performance: employee capability and job design. I personally have encountered many organizations that field annual surveys with such measures, and have well designed processes for managers to work with their results and develop action plans for improvement. Yet these same organizations almost universally are disappointed with the outcomes year after year because none of the other parts of the COM model are addressed at the same time.

*Opportunity.* The final part of the COM model – opportunity – is more commonly known as job design. Job design is as old as the study of organizations. Adam Smith (1776) described the productivity benefits of designing jobs in a pin factory so that people could specialize and not be spread too thinly across tasks requiring very different competencies. Taylor (1923) used industrial engineering principles to determine how such specialization could occur in practice, which helped give birth to modern manufacturing lines staffed by relatively low skill employees. Both Smith and Taylor focused on making jobs as narrow as possible to enable them to be done in a simple and straightforward manner.

More recently, Hackman and Lawler's (1971) job characteristic model and Hackman and Oldham's (1980) model of team design highlight the potential benefits of job enrichment as a counter-balance to very narrow specialization. The tradeoff between designing a job as enriched versus not enriched are tied into the larger work design. Enriched jobs have more autonomy and decision making authority, requiring less supervision and greater ability to handle complex decision making. Such jobs may require greater compensation to attract and retain the more highly skilled people who may be needed to staff them, but that can often be funded through fewer supervisors and greater spans of control, as well as from the increased productivity these jobs often create. Consequently, enriched jobs often are used as part of high involvement, high performance work design.

Today job design remains a core competence that HR and organization development professionals need to have (Parker and Wall, 1998), yet it by far is the least applied part of the COM model by HR professionals. The overwhelming focus tends to be on capability and motivation for two reasons. First, HR more often than not is excluded from taking part in the job design decisions usually made by senior leaders and strategy consultants whenever redesign happens. My claim here is based on years of experience working with organizations, and based on communications with my colleagues at the Center for Effective Organizations. I do not have data to explain why this is the case. I suspect it is part of the larger malaise that HR suffers from that leads it to be called “not a strategic contributor” to the business, a commonly heard lament, even though some progress has been made (Ulrich, 1994).

Second, job design decisions often are wrapped up in annual budgeting allocations because of the implicit assumptions about productivity that are built into the annual operating plans and compensation levels. So when HR professionals want to help improve the job design, they frequently hold back because they know they don't have the ability to change the annual budgeting allocations, or are shut out of the budget decision making processes entirely as a matter of policy.

*Using all three parts of the COM model together when doing workforce analytics.* Each part of the COM model has a rich history and wide range of insights the analytics can provide. If there are issues

with employee motivation, there are a host of approaches to diagnosing the sources and deciding among alternative solutions. If there are skills and abilities gaps, then competency modeling can help point the way to improved performance. If roles and responsibilities are not well defined and supported, then job design analytics can improve clarity and alignment.

No job is perfect on any of these three dimensions. The common mistake made in organizations is to do analysis along only one dimension, without considering the other two, and look for areas of improvement only in that area. Doing so usually reveals changes that in theory will support the organization's strategic objectives. For example, no one can refute that there is always training that can help improve skills that are relevant for the job; or that the way compensation is set can be improved at least a little; or that onboarding can be conducted more effectively; or that screening procedures for new hire candidates could be tightened up; and so on.

Yet following through on the results of such limited analysis leads most often to second best solutions: there usually is something more effective that is being overlooked because either or both of the other dimensions have been ignored. I have seen this mistake made countless times within organizations, and find that the vast majority of workforce analytics practitioners take a too-narrow approach to defining the domain of the issues they address at the individual role level (see Levenson, et al. 2010 for an example). Learning and development practitioners focus on competency models and measuring skill acquisition. Total rewards practitioners focus on performance management processes and the incentive effects of compensation. Recruiting practitioners focus on time to fill and quality of hire metrics. And so on. Their requests to their workforce analytics colleagues, if they do not lead the analyses themselves, are usually similarly narrowly focused. Yet failing to address all three parts at the same time when doing workforce analytics, usually leads to solutions that are suboptimal at best (Levenson, 2015) and, at worse, could be the HR equivalent of a tree falling in the forest with no one there to hear it – a change that has no material impact on either strategy execution or organization effectiveness.

Left to their own devices, I highly doubt workforce analytics practitioners on their own could wade through the enormous volumes of work from the social sciences that address individual level issues and realize the importance of tackling all three parts of the COM model simultaneously. I believe that a large part of the problem is that most industrial-organizational psychologists and other Ph.D. and Masters level social scientists working with organizations do not embrace that type of a systematic approach when looking at issues that, at first glance, appear to be related primarily to individual roles and specific HR processes. For example, competency modeling (Spencer and Spencer, 1993), using the

Kirkpatrick approach to evaluate training (Kirkpatrick and Kirkpatrick, 2006), calculating the ROI of existing HR programs (Phillips, 1994) and many more analytical approaches have roots in models that were developed in academe and the research world, and are presented to practitioners as state-of-the-art analytics practice. Yet these narrowly focused, standard practices too often fall short of the systematic analysis needed to diagnose the root cause of problems at the job level (Levenson, 2015). So in addition to the issue of doing systems analysis at the organizational and group levels, the overall focus of this article and my critique, there is a failure to conduct enough systems analysis at the job level. Hence why we need greater teaching and application of systems diagnostics at the job level.

**The missing focus on organizational effectiveness: team design, organization design, and culture.** This brings us to the more general critique that applies to most workforce analytics today: there is not enough focus on organizational effectiveness. My proposed alternative approach, described later in this article, provides one way to ensure a focus on strategy execution and organizational effectiveness. However, that is not the only way to improve current practice. What's missing in general from current practice is not enough focus on team and organization level design, processes and outcomes. Using the language of multilevel modeling and analysis (Klein, et al., 1994; Klein and Kozlowski, 2000), there is too much attention paid to addressing workforce analytics questions at the individual level (individual roles) and not enough attention paid to addressing issues at higher levels of aggregation: the team, work group, site, business unit, function, as well as the entire enterprise.

Modeling and analyzing issues at higher levels of aggregation than the individual is commonplace among management researchers who study teams, culture and organization change, among other topics. As useful as the analytics that are part of the COM model can be, analytics that focus on team/group, unit and organizational level processes and outcomes are usually more relevant for making a direct link to strategy execution and organizational effectiveness because (a) most organizational outcomes that matter for promoting and maintaining competitive advantage occur at the group level or higher, not the individual level, and (b) roles are interdependent so focusing only on solitary roles does not paint a large enough picture of the dynamics and complexity that underpin organizational performance (Levenson, 2015).

Yet despite the central roles that the higher level (team/group, unit, organization) processes and outcomes play in strategy execution and organizational effectiveness, and despite the large body of research and practical knowledge about those processes and outcomes that comes from the scientific community, they have been largely ignored by many practitioners who focus primarily on workforce

analytics. As with the cursory review of the COM components above, I here provide a very brief treatment of these topics.

*Team design.* There is a very long line of research and practice on team design and dynamics that has largely been overlooked by many people working in the field of workforce analytics (Cohen and Bailey, 1997; Hackman, 1987; Hackman, 1998; Maznevski and Chudoba, 2000; Gibson, 2001; Wageman, 2001; Kirkman, et al., 2004; Gilson, et al., 2005; Hackman and Wageman, 2005; Balkundi and Harrison, 2006; DeRue, et al., 2008; Millhiser, et al., 2011; Ohland, et al., 2012; Joshi and Knight, 2015). In my opinion, the reasons for that neglect are largely benign, but by no means inconsequential, for two related reasons. First, the literatures on individual job design and performance, and on team design and performance, have evolved separately within the research world. Second, most of the practitioners and consultants who work in the field of workforce analytics tend to come from an individual job design and analysis background; they understand the principles of the COM model quite well but fail to look at the larger picture of the context in which the jobs operate, so long as they can find potentially useful insights at the individual job level.

The costs of that neglect can be quite high when it comes to the strategic and organizational effectiveness relevance of workforce analytics. The overwhelming majority of work in organizations is interdependent, requiring groups of people to work together to accomplish their individual job objectives. If we want to talk about the right competencies for a role, how motivation contributes to performance, and whether the role is designed correctly to begin with, the group of jobs that role has to work closely with cannot be ignored – yet that is precisely what takes place with regularity today.

It is important to recognize the role that teams play as part of high performance work systems (Appelbaum and Batt, 1994; Cooke, 1994; Ichniowski, Shaw and Prenzushi, 1997; Cappelli and Neumark, 2001; Blasi and Kruse, 2006; Devaro, 2008). The interdependence of work across roles virtually requires that any workforce analysis include a component that looks at a larger picture than just one role or the people in that role. Depending on the situation, the group-level part of the analysis may need to be done in only a cursory fashion to ensure that analysis at the individual level is sufficient; but, it may also identify deeper analyses at the group level that are more important and must precede any analysis at the individual level (see later discussion in this article).

On the positive side, because the teams literature is so well developed, there are many available measures that can be employed as needed, including as part of companywide annual employee surveys or one-off more targeted surveys. One of the central principles of the teams literature is that a team can be more effective and have greater productivity than a collection of individuals if the team is well

designed and aligned in its objectives, methods, and rewards (Cohen and Bailey, 1997; Hackman, 1987; Hackman, 1998). The literature has developed many different constructs over the years to measure and monitor team effectiveness, including examples such as shared understanding, integration, and trust (Cohen and Bailey, 1997), and bounded team membership, stable team membership, interdependence, knowledge of results and information sharing (Wageman, et al., 2005).

*Work and organization design.* The design of the organization is just as important as team design when it comes to diagnosing the problems with strategy execution (Galbraith, 1977; Galbraith, 2014). Arguably, problems with alignment in the organization design are the primary source of many organizational effectiveness problems. The reason is because the very nature of organization design creates silos based on how decision rights are allocated (Galbraith, 2009). If the primary decision rights allocation (the main organizing principle) is functional, then the silos are created between functions; if it is product based, then the silos divide the product groups from each other; if it is geographical, then the silos are between the regions; and so on.

To deal with alignment challenges and silo behavior, organizations use lateral integrating mechanisms that take a number of different forms (Galbraith 1977; Galbraith 2009). At one end of the spectrum are formal matrix reporting relationships. At the other end of the spectrum are informal arrangements such as communities of practice and self-organizing working groups. In between are groups that are formed as part of the organization design to address specific issues, such as cross-functional new product development teams, committees convened to decide various policies, vendor purchasing teams, or customer segment teams. There are design issues and diagnostics that focus specifically on team effectiveness (see previous discussion).

Just as there are many things that can be fixed or improved with any role in the organization, the same applies only more so for the organization design. The necessity of assigning decision rights for proper resource allocation and control creates silos and the need to overcome them through lateral integration. Yet virtually all types of lateral integration are challenging to implement well and are imperfect at best. It is easy to find things to be fixed or improved with the organization design. What is hard is prioritizing which changes to the organization design are most important for improved strategy execution.

*Culture.* The final piece of the puzzle missing from current workforce analytics approaches is a consideration of culture (Wiener, 1988, Schein 1990, 1992; Gordon, 1991; Sackmann, 1992; Hatch, 1993). Culture is a source of both competitive strength and weakness. Whether it is a strength versus

weakness depends on the strategy and how well aligned the culture is with it (Barney, 1986; Saffold, 1988; Denison, 1990; Schein, 1996; Jassawalla and Sashittal, 2002).

Culture to date has been part of few workforce analytics efforts largely for similar reasons as the neglect of organization design. Since it is hard to change (Wilhelm, 1992; Neal and Tromley 1995; Detert, Schroeder and Mauriel, 2000; Roberto and Levesque, 2005; Canato, Ravasi and Phillips, 2013), it is easier to exclude culture from the analysis than to take the risk of learning that culture change is needed for performance improvement.

As with other areas of organizational effectiveness, the alignment of culture with other aspects of organization design, including rewards (Kerr and Slocum, 2005) usually is a prime candidate for diagnosis. Lack of alignment at some level is the typical source of problems with organizational effectiveness: it is the cause of siloed behavior originating from the organization design, and often a source of teams' efforts not being optimized.

*Organizational capability.* The concept of organizational capability is central to understanding how to prioritize workforce analytics efforts. Under a proper systems diagnosis, all of the analyses of organization design, team design, culture and the individual level diagnostics focuses (individual capability, motivation, job design) should be mapped onto the organizational capabilities that build and maintain competitive advantage (Levenson, 2015). A common approach is strategy maps (Kaplan and Norton, 2004) or any other tool that shows the step-by-step link between individual people, roles and HR processes on the one hand, and business processes, customer outcomes and financial and strategic outcome on the other hand (Becker, et al., 2001).

Referring back to the scientific literature, the concept of social capital is closely related to organizational capability (Burt, 1997; Nahapiet and Ghoshal, 1998; Tsai and Ghoshal, 1998; Leana and Van Buren, 1999; Leenders and Gabbay, 1999). Social capital generally refers to the value created by networks of resources (Nahapiet and Ghoshal, 1998); organizational capability refers to the way that resources are combined together to create competitive advantage. Whereas social capital tends to be defined primarily in terms of social relationships, organizational capability is created through the combination of social relationships along with organization design, job design and individual capabilities. Though they are not the same, the individual behaviors that are associated with individual motivation and the group behaviors associated with culture contribute to the building of social capital.

**The problem with ROI and other common ways of evaluating HR and diagnosing organizational effectiveness.** Above I argued that there are many different types of analytics that provide useful insights into organizational phenomena that are not fully utilized currently by workforce

analytics practitioners. Many of them are process-based measures that focus on improvements in measures of individual satisfaction (intention to turnover, job satisfaction, pay satisfaction, career satisfaction, relationship with supervisor, etc.), competencies (measured behaviors and human capital), and team dynamics (conflict, overload, etc.). Yet a quick look at the topics featured in the myriad of workforce analytics conferences, webinars and books shows a large amount of effort dedicated toward measuring business outcomes that matter. Here I provide a brief review of some of the most prominent ones and highlight the conceptual challenges that often keep those approaches from offering the needed insights into strategy execution and organizational effectiveness.

The first and biggest challenge is that current workforce analytics efforts usually start with existing HR programs and policies and attempt to measure their impact or identify ways they can be improved. This is a perfectly fine way to use analytics if the goal is incremental improvement in existing processes. And it is indeed an operational goal to improve the efficiency and effectiveness of existing processes to cut down on waste, save money wherever possible, and free up resources for spending in other areas or to increase margins and bottom line profitability.

Yet the reason why such evaluations are often received less-than-enthusiastically by senior business leaders is precisely because they focus on incremental improvements to existing HR processes. A large challenge facing all organizations is the tradeoff between optimizing existing processes at the margins versus identifying where existing processes should be challenged and potentially radically changed. If you ask most senior business leaders to identify how existing HR processes provide substantial value added, they would struggle to come up with coherent answers in most cases. The reason is because most HR processes, like most processes of all support functions including finance, IT, etc., are essential for “keeping the lights on” – maintaining current operations as is – but are not essential for closing the current big gaps in strategy execution and organization effectiveness.

For example, most screening, compensation, training, coaching, and other HR processes are essential for maintaining the business day-to-day; if the organization stopped doing them tomorrow, then business results would suffer. Yet the question is not whether such processes provide value added – of course they do – but instead whether any of them need to be improved in specific ways to close the existing gaps in strategy execution. The same can be said for the finance function’s responsibilities of managing the organization’s budgets, bank accounts, accounts receivable and payable, tax filing, etc.; as well as the IT function’s responsibilities of maintaining existing systems, providing user support, working with vendors to get better service agreements, etc.

In all of these cases, the overwhelming majority of existing processes are not top priority for improvement. Could a narrow analysis of improvements in any specific process demonstrate a positive benefit to the organization that leads to incremental improvements in efficiency and effectiveness of the process? Would those incremental improvements lead to pennies or even dollars saved per transaction, which added up over many, many transactions could lead to substantial financial benefits? The answer of course is yes in principle; and in practice in the vast majority of cases the answer is also yes because no process is perfect and can always be improved. Yet demonstrating such potential financial benefits can be quite different than finding which organizational changes are most needed to close the biggest gaps in strategy execution and organizational effectiveness. If the only improvements to be made were incremental changes in existing processes, then the business' leaders would not spend so many nights worrying about the big challenges they face in the marketplace.

For example, consumer products companies' competitive advantage comes from having large scale production, marketing and distribution systems that give them scale and efficiency with which their smaller competitors often cannot compete. These organizations' strategic objectives usually are to maintain and build greater branding impact, and distribution system breadth and efficiency. Improving the efficiency of existing HR processes such as recruiting and compensation will not materially increase the organization's competitive advantage when applied to most jobs in the company. Yet in a handful of cases – the ones that are the bottlenecks for improved competitive advantage – such changes could have the sought after big impact; the challenge is identifying which ones matter most (see next section for details).

A big challenge in many organizations is the constant pressure to optimize business processes by streamlining them to save money and increase productivity and margins. In many cases business processes can be improved incrementally without degrading performance, so business leaders often demand cost reductions as a core part of how they manage the business. Yet constant pressure to reduce costs can lead managers to cut spending in ways that is "penny wise and pound foolish:" the spending cuts degrade organizational capability so it becomes harder for the organization to maintain or increase its competitive advantage in the marketplace.

Currently, return on investment (ROI) is the gold standard for evaluating the financial benefits of an organizational change or existing process. Yet often there is a fundamental tradeoff between demonstrating immediate ROI of a change versus improving the organization's competitive advantage through increased ability to win in the market place (Levenson, 2015). On the one hand, when it comes to optimizing existing processes and making them incrementally better, a focus on how to do the same

tasks in less time and/or using fewer people, or by substituting technology for people is precisely what the business needs to squeeze costs out of existing processes and (slightly) increase margins. Yet on the other hand, the big gaps in strategy execution often require significant investment in new organizational capability where the organization currently is relatively weak.

For example, when Boeing embarked on building its new Dreamliner/787 series of aircraft, it had to invest substantially in new organizational capability working with composite materials instead of traditional metal materials. The large cost overruns and production delays meant low to negative short-term ROI, and large cash outlays to deal with them. Any ROI calculated over reasonably short-term horizons would have been negative. Yet Boeing's leadership never deviated from their decision to use substantially more composite materials in their aircraft because the competitive advantage from doing so was so compelling: much lighter plane weight, better fuel economy (which created significantly lower operating costs for its customers over a plane's lifetime), and the assurance of knowing it would maintain parity with Airbus, its primary competitor, which also was incorporating composite materials into its production processes.

The bottom line is that incremental improvements in performance certainly contribute to the business, and they often have an impact that can be measured in financial terms or ROI. But optimizing existing processes is not the same thing as improved strategy execution, and can even run counter to it, especially if the finance function focuses the organization too much on short term cash flow and ROI measures (Levenson, 2015). In situations like that, HR and the business leaders may opt for more narrow, incremental improvements in organizational capability and processes that offer relatively meager short-term boosts to the bottom line, while foregoing more forward-looking, longer-term investments in people and the business that can truly move the needle in terms of improved strategy execution and organizational effectiveness. Such issues are often at play in publicly traded companies that feel the pressure to deliver improvements in financial results over relatively short time horizons.

A different but related problem with current practice is a sometimes over-emphasis on interesting or novel statistical methods and new data sources without the right framework for evaluating their strategic importance. For example, a few years ago a number of consulting companies started making a big deal about applying conjoint analysis to questions of employee choice over different aspects of the job and compensation or benefits. Conjoint analysis has had a very long and successful history in marketing of helping companies determine what types of product features to offer, such as the colors of a car and what options are provided. Applying the same statistical tools to employee choice over specific benefit packages including better health care coverage, vacation time,

etc. versus money spent on raises is a novel approach that until recently was not widely employed. The insights that have emerged from such analyses have helped companies squeeze better value for their employees out of existing budget allocations for benefits and compensation. Yet such improvements typically provide little to no value in overcoming the operational bottlenecks that most challenge senior leaders on the business side.

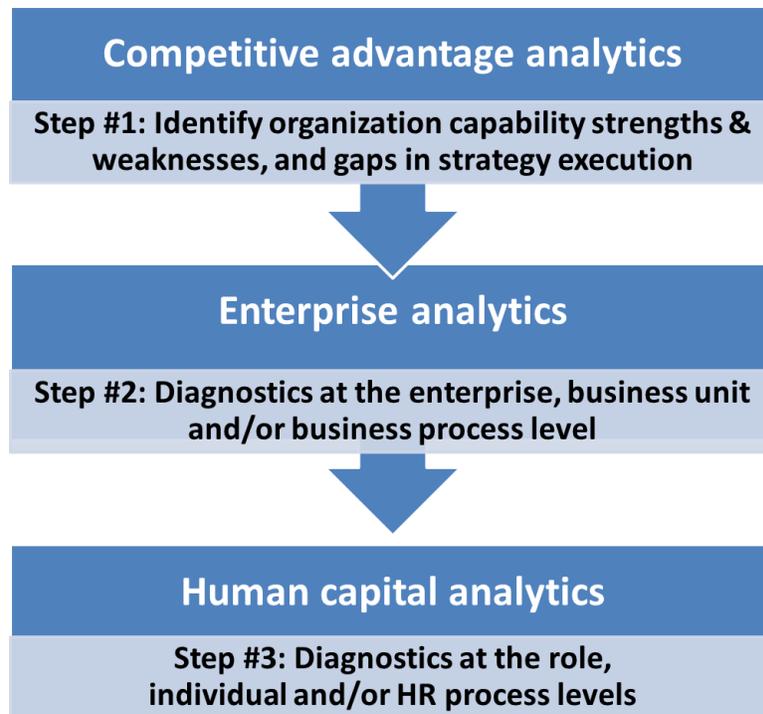
For another example, social network analysis currently is gaining greater traction within companies as a way to understand the “informal organization” – the people who are the most trusted and relied upon to get things done in the day-to-day work of the business. Such insights can be helpful for fine tuning reporting relationships, budget allocations, and even decision rights. However, they are no guarantee that the right people are in place to improve strategy execution; that the correct lateral integrating processes are in place to overcome organizational silos; that people are being held accountable for the behaviors needed to improve organizational effectiveness; and so on.

The previous are two examples of established social science analytics techniques that are making their way into common organizational practice in workforce analytics. Along another front, vendors of enterprise IT systems are building greater and greater functionality for doing basic data analysis, including graphical representations, into their software packages so that anyone in the HR function or the business can manipulate HR data that previously was only available to a small number of analytics professionals. However, rather than improve the quality of insights derived from existing data, such ease of use only increases the tendency to rely on existing warehoused data for analysis despite their extremely limited nature (see discussion above).

### **An alternative approach**

The biggest gaps in current workforce analytics practice are (a) there is too much focus on individual or role-level questions, and (b) there is a too much emphasis on evaluating existing HR programs without looking at the bigger picture of strategy execution and organizational effectiveness. What is missing is a way to compare and select which types of workforce analyses will yield the most important strategic insights. To make things better, workforce analytics needs to be focused more on building and preserving competitive advantage and on closing the gaps in strategy execution that most bedevil the business’ leadership.

The solution I propose is to start with the current gaps in organizational capability and the organization design problems that degrade competitive advantage. The steps to take are shown in Figure 1 and are discussed in detail in Levenson (2015):



**Figure 1: The steps to conduct strategically relevant workforce analytics**

**Step #1: Competitive advantage analytics.** In this first step, the competitive environment of the organization is assessed through interviews with senior leaders and through independent knowledge about competitive issues in the relevant industry or industries. The most important issues holding the organization back from better strategy execution and organizational effectiveness are identified and prioritized. Specific tools that can be applied including strategy maps (Kaplan and Norton, 2004), SWOT analysis, value chain analysis and product maturity models.

For example, branded pharmaceutical companies such as Pfizer, Glaxo Smith Klein, and others, derive their competitive advantage from R&D, marketing, successful acquisitions of other companies and compounds, and government relations. Capabilities such as manufacturing, distribution and sales are important contributors to margins and financial success; yet they are not the organizational capabilities that provide true competitive advantage. So organizational effectiveness issues that address manufacturing, distribution and sales should be prioritized lower than issues affecting R&D, marketing, mergers and acquisitions (M&A), and government relations.

It does not require a great deal of effort to conduct the competitive advantage analytics step, yet it requires an ability to assess competing priorities for the business where the agendas of key leaders can come in conflict with each other. In the pharmaceuticals example, the diagnostic needs to address

the relative needs for improvement in each key part of the business. Key questions to ask include: What are the biggest challenges in R&D, marketing, M&A and government relations? What types of organizational change might be needed to address the challenges, and would the leadership be more receptive to supporting certain changes over others? Is the likelihood of success greater for some potential initiatives over others? Answering these questions and other related ones is an essential part of the prioritization process; for further details see Levenson (2015).

One of the biggest conflicts when prioritizing is between cash flow and margins on the one hand, and achieving strategic objectives on the other because investing in strategic priorities can have conflicting impacts on profitability: there is tension between the strategic priority and the need to keep costs down to make money. For many consumer products companies, the priority is low finished product cost and high quality. For technology and pharmaceutical companies, it is cutting-edge innovation that doesn't cost too much to create. For many consumer and financial services firms, it is cost-effective customer service. Safety is a primary concern in manufacturing, mining and construction—but organizations can overspend on safety to the point where there are few to no additional safety gains while margins erode. And so on.

The tension often gets translated into “do more with less.” Problems in strategy execution arise when the benchmarks that senior leaders use to set productivity and quality targets cannot be attained within the allocated budgets. In most organizations, that is close to a daily occurrence. Figuring out why productivity or quality are falling short, or why costs are exceeding budgets, takes up inordinate amounts of time for middle and frontline managers. They rarely arrive at the best diagnoses and solutions because they do not know how to incorporate what is going on with the people. That is the job for the workforce analysts.

Yet the workforce analysts cannot do the prioritization on their own. They have to engage senior leaders to identify the issues at hand, and determine what is most needed by the business, where change is most likely to be supported, and how to tradeoff prioritizing certain potential changes over others.

**Step #2: Enterprise analytics.** Once the competitive advantage analytics step has been completed and the issues to address identified, the next step is analytics at the team/group, unit and/or organization level. This step addresses the challenges to executing the strategy that arise from the group-level work design, including the organization design.

The types of issues to address in this step are discussed in the previous section on team design, organization design and culture. Specific issues to address in organization and team design include

problems with the design decisions and lateral integration. How are decision rights allocated? Where do problems arise in decision making? How do people overcome the flaws in the organization's design? Where does matrix decision making need to be improved? Are resources properly allocated to support the strategy? Which aspects of the organization's design and capabilities reinforce the culture and make change more difficult? What are the group norms that drive behavior? Where do those group norms support effective strategy execution and where do they get in the way?

A key task for this stage of the analysis is determining at what level deeper analysis should take place. In my view there are two fundamental challenges with the way workforce analytics are commonly practiced in organizations: too much emphasis on individual level issues (not enough on group-level issues), and analyses that are too heavily weighted toward multivariate analysis (including regression analysis, anova, conjoint analysis, multivariate choice/logit/probit, and more). Both challenges are interrelated because fancy multivariate methods are most often appropriately applied at the individual level where there are numerous repeated observations on (relatively) homogeneous samples of people in roles.

Yet the higher level of aggregation focus of group-level analysis (team, group, unit, function, enterprise, etc.) does not often lend itself to multivariate statistical analysis. Only when there are repeated observations of identical groups, such as sales locations/branches, work teams, and so on, can multivariate analysis even be considered in the first place. In all other settings a different type of analysis is needed. Moreover, when the diagnostics have to focus on issues of organization design, including the implications of decision rights allocation, collaboration across organizational silos, and business process issues such as go-to-market effectiveness, innovation, quality, and customer service, the focus often is on the overall results for a collection of work groups. In such settings the only type of diagnostic that often is needed is qualitative in nature (Levenson, 2015).

**Step #3: Human capital analytics.** Once the enterprise analytics have been conducted, the final step, if needed, is human capital analytics, including analyzing potentially all three parts of the COM model. The reason I say "if needed" is because this final step should be employed only if the results from the enterprise analysis are insufficient on their own to show a clear and definitive course of action to take. For example, many problems with silo behavior and (lack of) organizational alignment that arise from problems with the organization design can be addressed sufficiently using only enterprise analytics, not workforce analytics.

Carrying out all three steps of the diagnostic is more involved and time consuming than traditional workforce analytics approaches that focus predominantly on the individual level of analysis.

Yet that does not mean that the end result will necessarily be very different than when only individual-level analyses are considered. A main reason for doing the first two steps in the approach advocated here is to put in context any individual-level analysis that might be considered. There is always variation in performance, motivation, and the experience individual employees and managers have to impact business results; so there usually is *some* type of analysis that could be conducted at the individual level that will yield potentially actionable insights. The question is the relative value of the individual-level analysis results, which can only be assessed by considering the strategic context (competitive advantage analytics) and whether any group-level factors drive, or at least contribute to, the observed individual behaviors and business results (enterprise analytics). Levenson (2015) provides examples of the three different combinations of analyses that are possible: (a) where the vast majority, if not all, of the diagnostic time is spent looking only at group-level issues, (b) where the vast majority of diagnostic time is spent looking only at individual-level issues, and (c) where both types of analysis are needed for a complete diagnostic.

**Case study example.** To illustrate the different steps with a specific example, consider the TD Canada Trust case (Campbell and Kazan, 2008). The case focus is the acquisition of Canada Trust by TD Bank in 2001. Because of a variety of regulatory issues and the shape of the competitive landscape in Canadian banking, the success of the merger hinged on retaining the customers of Canada Trust as that company was acquired. Canada Trust had built a successful business on the foundation of being different than the big banks, so the acquisition presented large risks in terms of customers moving their money to other, smaller banks.

The competitive analytics step in this case is described almost completely by this summary. The overall strategic objective is “successful merger.” Of course, there are many different measures that could indicate a successful merger including: maintaining the right mix of products sold; greater cross-selling to clients from a more diversified portfolio of products and services; reducing redundant costs/streamlining operations across the two organizations; expanding the geographic reach of the acquiring company; and maintaining the existing customer bases from both organizations.

In this case, though, the objective of reducing redundant operations had limited value because of the regulatory environment: the bank “had been asked to be sensitive about its branch closures and layoffs” (Campbell and Kazan, 2008, p. 6). So rather than more of a bottom-line focus to gauge the merger’s success (cost reduction), the emphasis instead was on keeping the existing customers happy. In this case, the company was pursuing a growth strategy whereby it could save money through increased economies of scale. The organizational capabilities the bank was trying to maintain and build

to support that strategy were ability to serve a larger set of customers via a more diversified product portfolio. For example, Canada Trust was an innovator that often led Canadian banking into new ways of doing business such as commission free mutual funds and pioneering the use of ATMs. So the merger offered the prospects of greater topline growth for TD Bank. And if the merger could be done successfully, top line revenue should increase without a large increase in branch or employee costs, since outright cost reduction at a large scale was politically infeasible. This led to the focus on customer retention: a higher customer retention rate means maintaining a given level of assets under management and rates of sales of products and services as current customers stay with the bank, while offering the prospects of increases in both as new customers are successfully recruited to engage with the bank; both assets under management and sales should increase if greater customer retention means that more customers join than leave in any given time period. Moreover, as the merger progressed, customers did start to leave at a faster rate than was the case historically because of dissatisfaction with aspects of the merger such as standardizing accounts, different terms of doing business (fees, hours of operation, and service in rural areas).

The second step of the diagnostics focuses on the organization design and culture needed to support the strategy and a successful merger. The bank realized that it had made some errors with the initial integration steps, so it designed a strategy to correct those. In particular, the leadership decided to gradually roll out branch integration across the country. This enabled them to learn how to work out the kinks of systems integration as they went along. It also minimized branch employee dissatisfaction and turnover, which can directly impact customer satisfaction and retention.

The conclusion of the enterprise analytics in this case was that they had to focus on integration of business process systems at the corporate level, as well as integration of branch operations at the local level. Doing so successfully included leadership communicating clear expectations that were followed through on with both customers and employees regarding what the outcomes of the merger would be. A core message was that the merged bank would look and feel (have the culture) of the acquired bank – Canada Trust – not the acquirer – TD Bank. Operationalizing that objective, many Canada Trust executives were put into key leadership roles even though TD Bank was the larger organization to start with.

Note that the decision to put Canada Trust executives in charge of key parts of the business reflected a type of human capital analytics: understanding the different aspects of leadership competency needed for the merger's success. One aspect was ability to lead and manage complex organizational processes, a relative strength of TD Bank executives who worked with a larger

organizational scale. The second, and equally critical aspect, was ability to maintain and spread the Canada Trust culture to the merged organization, a core strength of the Canada Trust executives. Not addressed in the case study discussion is another likely reason for putting executives from both companies in leadership roles: integrating processes across two large organizations almost always requires leaders from both companies working on the integration to ensure tacit knowledge about business processes and organizational culture is used effectively during the integration.

What is not detailed in the written case study are any in-depth analyses at the human capital level that shed insights into between-employee differences in motivation and productivity, and how those were addressed during the integration. A likely reason for this is that this type of case study, a merger integration, is a classic case where many, if not most, of the most important diagnostics are done at a group level. However, in other merger cases more in-depth human capital analytics might be appropriate. For example, if there were large scale cost reductions through branch closing and layoffs, understanding individual differences in how people perceived the merger to avoid a large-scale increase in unwanted voluntary turnover could have been critical for the merger's success. Yet that focus was not relevant in this case given the regulatory pressure on the bank to do minimal branch closures and layoffs.

This discussion of whether and how to employ human capital analytics to look at the drivers of voluntary turnover illustrates a main point about why the initial steps of competitive advantage and enterprise analytics are needed to understand the relative value of that type of human capital analytics. In the case of the TD Bank – Canada Trust merger, the first two analytics steps revealed that that third analytics step was not needed to address the big strategic issues of the merger. Could such analyses nonetheless have revealed key insights to help local branch managers deal with voluntary turnover issues? Of course they could; however in this case that analysis would just help with incremental improvement of existing operations, not closing any gap in strategy execution related to the merger.

## **Conclusion**

In this article I have taken a relatively critical look at the current practice of workforce analytics in organizations. Looking at the glass as half full, much of the workforce analytics being applied today is capable of delivering useful insights that can enable more effective decision making, cost savings, streamlined operations, and employee engagement practices. Looking at the glass as half empty, there is an overwhelming number of business and people processes that can benefit from such improvements.

Yet current practice offers little guide on how to prioritize which improvements are most important for strategic success and, thus, should be analyzed before others.

In order to make progress in this domain I firmly believe that the practice of workforce analytics needs to change from the top down, starting with how it's taught and applied management professors and university-based researcher, by consultants, and by internal experts. The three step approach I propose is one path. Undoubtedly there are others. Which one(s) to teach, and the relative merits of each, is an important topic for further investigation.

In order to be effective, the changes I seek will need to take place not just among the community of people teaching and leading workforce analytics, but also among those implementing it on the frontlines. Taking the approach I have described here often puts the workforce analyst in more of an active role when working with business partners. Suppose a stakeholder comes to the analyst and asks for a simple analysis of, for example, the factors that correlate with employee turnover, or how many people of a particular skill level there are in the organization. If the goal is to ensure the analysis best serves improved strategy execution and organizational effectiveness, the first response should be an informational interview with the stakeholder to determine the real issues at play. The analyst should determine what the real business issues and risks are, and whether the perceived problem human capital issues are strategically relevant. This may put the analyst in more of a confrontational relationship, and so the approach is not recommended in all settings. However, in light of the large volume of analyses in organizations that take place where there is no big perceived value to the business of the results, a little more confrontation here and there could be a good thing to move the practice of workforce analytics further into the realm of improving strategy execution and organizational effectiveness.

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