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CAPABILITY CAN HELP IT ADD
BOTTOM-LINE VALUE

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Harnessing the Power of HR Analytics:
Why Building HR's Analytic Capability
Can Help It Add Bottom-Line Value

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Executive summary

The article addresses the emerging discipline of HR Analytics. Analytics enable HR to make strategic contributions, but not all analytics offer equal insights. The usefulness of ROI, cost-benefit, and impact analysis are compared. Two action steps are identified: 1. Build an HR-Analytics center of expertise. 2. Create a foundation of analytic skills across the function.

HR Analytics is an emerging discipline that can help enable HR to fulfill the promise of becoming a true strategic partner (Lawler, Levenson, and Boudreau, 2004). Though there has been a proliferation of HR metrics and scorecards in recent years, HR needs the power of analytics to differentiate which measures matter. HR Analytics includes statistics and research design, but it goes beyond them, to include identifying and articulating meaningful questions, gathering and using appropriate data from within and outside the HR function, setting the appropriate standards for rigor and relevance, and enhancing the analytical competencies of HR throughout the organization (Boudreau and Ramstad, 2004).

While the professional discipline of HR Analytics is relatively new, the analyses themselves are not, consisting of behavioral modeling, predictive modeling, impact analysis, cost-benefit analysis, and ROI. The challenge for HR is understanding when and how to apply each type of analysis – and when greater analytical sophistication can be counterproductive. This article discusses the insights that can be learned from each type of analysis and the need for HR to build the capability internally to move beyond scorecards and dashboards to analytics that make a difference for organizational effectiveness. The case is made for building deep analytic capabilities as a center of expertise in HR <u>and</u> for building a solid foundation of analytic capabilities among the HR leadership team, generalists, and functional experts.

ROI analysis: too time consuming – and too simplistic

Being asked to show the ROI of a program or change effort is the bane of HR's existence. Most HR professionals are not schooled in the mechanics of ROI, and so often feel incapable of challenging the ROI mandate. There are two good reasons, though, why ROI is not and should not be used universally: ROI oversimplifies complex processes, and the time and resources needed to calculate ROI may be excessive.

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ROI is overly simplistic because it collapses all costs and benefits into a single number – the rate of return – equal to the ratio of the monetary value of the benefits over the monetary value of the costs. The appeal of ROI is that, in theory, the solitary rate of return provides an aide to decision making because it can be used to evaluate very different projects using the same metric. The reality, however, is much different. By collapsing very different costs and benefits into one number, ROI throws out information that may be critical for decision making (Levenson, 2003). For example, consider the ROI for two different product innovations: (a) an incremental innovation that is virtually assured of preserving market share; and (b) a radical innovation that has a low probability of generating a very large increase in market share and a high probability of losing an incremental amount of market share. Depending on the probability assigned to the good vs. bad outcomes for the second risky project, its ROI can either fall short of or exceed the ROI of the play-it-safe project. In this case, deciding between the two projects simply on the basis of ROI puts too much control in the hands of the people who assign the probabilities for the outcomes of the risky project. Thus relying on ROI without any context or consideration of the underlying assumptions can lead to incorrect decisions.

Of course, business leaders never make strategic decisions simply on the basis of ROI, even when it is available. But that underscores ROI's deficiency: the rate of return number by itself is not very meaningful. What's more, it can be quite cumbersome to calculate, given the range of different outcomes an organizational initiative can produce. This is particularly the case for HR and human capital initiatives that impact how work is organized and executed; these have ripple effects that can permeate a wide variety of product and process outcomes, including teamwork, innovation, cycle time, customer satisfaction, organizational learning, and knowledge management (Figure 1). So in practice there is a tradeoff between including all possible costs and

benefits in the ROI calculation, or devoting so much time, energy and resources to the ROI calculation itself that the decision making process is hampered (Levenson, 2003; Levenson and Cohen, 2003).

Thus, despite its allure, ROI analysis likely will never fulfill its promise to enable effective data-based decision making for HR and human capital issues.

Cost-benefit analysis: greater complexity and more meaning, but …

Cost-benefit and ROI analysis essentially are two halves of the same whole. In contrast to ROI analysis, cost-benefit analysis does not collapse all monetized costs and benefits into a single rate of return. Thus, cost-benefit analysis preserves the rich details of the individual costs and benefits. This enables decision makers to see each cost and each benefit detailed on its own, with a dollar value assigned to each.

Consider, for example, a cost-benefit analysis of a leadership development program. Candidate benefits include many of the process improvements in Figure 1. Candidate costs include the out-of-pockets costs for the program, and the time costs of the program participants.

Despite cost-benefit analysis' greater detail, having to assign monetary values to each potential benefit and cost is a drawback. This presents a dilemma similar to ROI: where to draw the line. Assigning monetary values may be hard to do for process improvements like innovation, customer satisfaction, knowledge management and organizational learning; consequently a "reasonable" cost-benefit analysis that focused on readily-quantifiable monetary benefits likely would ignore such benefits. Yet these improvements can be critical for organizational effectiveness and strategic success. This is where cost-benefit analysis falls short.

Impact analysis: built on models of individual and group behavior

If we relax the requirement that all costs and benefits be expressed in monetary terms, that leads us to impact analysis. Impact analysis involves identifying the causal links in Figure 1 between individual and group factors, on the one hand, and process improvements on the other hand. Impact analysis is a precursor to conducting both cost-benefit and ROI analysis, so we will focus the rest of the discussion on the analytics and skills necessary for impact analysis.

Listing the potential benefits and costs to be considered for an impact analysis is not hard, so long as the line and HR leaders who are most knowledgeable about the organizational processes brainstorm together. The real challenge lies in establishing a causal link from the individual and group factors to the process improvements. This, fundamentally, is the real analytic challenge that organizations face: how can we determine the factors that lead to the desired improvement in organizational processes, and strategic and financial outcomes?

The answer lies in behavioral modeling, which uses the social sciences (economics, organization behavior, psychology, and sociology) to understand the intricacies of individual motivation, group dynamics, and the incentives and behaviors that produce organizational outcomes. This is represented in Figure 1 by the "HR / Human Capital Initiatives" box.

Building analytic capability within HR – both deeply and broadly

The good news for HR Analytics is that the behavioral modeling tools needed to do causal analysis are well established. The bad news is that the people who know best how to use the tools typically are not in HR. There are two places these people can be found: in analytic roles in other functions within the organization, and externally in academic and consulting organizations. While both groups have their strengths, their weaknesses mean that neither group has the perspective and experience that HR needs today to make the best use of HR Analytics.

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The external analytic experts typically have deep knowledge about relatively narrow, functionally-oriented HR and human capital topics, such as measuring skill building as a result of training, optimizing performance management and rewards systems to improve line of sight and increase motivation, and using validated testing to increase the effectiveness of recruiting and staffing decisions. These experts' narrow focus often limits their ability to understand how the organizational context impacts the way in which they should apply their analytic skills and interpret the analysis results. This means that they can produce findings that provide some insights into the factors that drive individual employee behavior; but those insights often are incapable of showing a causal link to the process improvements in Figure 1 that matter.

The analytic experts in other functions (finance; marketing; engineering; etc.) have the opposite problem. They typically excel at structuring analytics to address organization-specific issues related to strategy and product lines. But they also typically do not know the right logic and analytics to human capital and organization culture issues. Financial analysts excel at boosting the bottom line by managing cash flow, spending and investment decisions; those same skills say nothing, however, about how employees are motivated by the monetary and nonmonetary aspects of their jobs. Marketing analysts can identify product attributes that command premium prices and deliver repeat customers; but product buying decisions are very different from labor supply decisions about where to work, for how long, and with what levels of productivity and efficiency. And engineers' ability to optimize production processes does not transfer to optimizing developmental and learning interventions to build employee skills.

Thus there is no widely-available pool of skills that HR can tap today to do the causal analysis needed to optimize its work and make the best strategic contributions. The answer: create those skills within HR by building deep analytic capabilities in an HR center of expertise

<u>and</u> by building a solid foundation of analytic capabilities among the HR leadership team, generalists, and functional experts.

HR Analytics Centers of Expertise

Over the past three years, the Center for Effective Organizations (CEO) at the University of Southern California has convened a series of consortia of leading companies who are working on HR Analytics. One of the key phenomena that has emerged from that work is the idea of an HR Analytics Center of Expertise (HR-ACE). This phenomenon is so new that there is scant data on the prevalence of HR-ACEs. CEO is currently conducting a survey to gather information on HR-ACEs and HR Analytics more generally. While it is too early to know the results of that survey, we have learned some lessons about HR-ACEs from our work with the consortia.

One of the most important lessons is that HR-ACEs cannot be everything to all people, because there are a myriad of HR issues to analyze. This means that the analytics experts must focus their limited resources on a set of high priority analyses. There also is a limit to the number of specialized analytics skills that can reside in an HR-ACE, particularly in the smaller groups. Given the range of statistical tools and social science models available, even well-designed HR-ACEs need to take advantage of external resources in the academic and consulting arenas.

Analytics skills for HR leaders and generalists

Building an effective HR-ACE is an important task, one that is equaled by the need to develop analytic skills for the non-analyst HR leaders, generalists, and functional experts. Of course the non-analysts in HR do not need as deep a set of statistical skills as the analysts. But they do need to understand the principles of data-based analysis, including the power and limitations of analytics, for two reasons.

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First, the HR-ACE team alone cannot own the results of the analysis. They are the technical experts who drive the statistical work. But it is their stakeholders in HR who ultimately must ensure that the analysis results are interpreted and acted upon properly by HR and line leaders. The HR-ACE may own analytics, but it cannot and should not own the change process.

Second, defining the questions to be addressed analytically is the joint responsibility of the HR-ACE and its HR stakeholders. Thus the non-analysts need both a sense of ownership regarding using data to address HR issues, and the understanding about what can or cannot be proven using analytics.

Is there an "evolution" of analysis?

Figure 2 provides a framework for thinking about how HR should approach analysis of critical human capital issues. The bottom of the figure represents the typical data-based activities that most HR functions conduct today: benchmarking, data mining, and scorecards/dashboards. In the middle is behavioral modeling and predictive modeling, which are two halves of the same whole. Behavioral modeling takes the available data and identifies the causal factors that led to the outcomes that occurred; predictive modeling predicts future outcomes. Thus behavioral modeling is backward-looking while predictive modeling is forward looking. Behavioral modeling also is the first step that is needed for predictive modeling. Note that impact analysis, cost-benefit analysis, and ROI analysis are all at the top of Figure 2: these are the ultimate objectives of behavioral and predictive modeling.

As we have argued, even though ROI often is viewed as the desired outcome of analysis, there are many reasons for focusing HR Analytics on behavioral modeling and impact analysis as the primary objectives. Because they are the precursors for doing cost-benefit and ROI analysis,

they are the logical place to start. Getting that first step right often is all that HR needs to provide true strategic value, without putting dollar values on the impacts for cost-benefit or ROI analysis.

Note that scorecards are not featured in Figure 1 and are located at the bottom of Figure 2. That is because scorecards are not analysis; they often are set up without even exploratory data analysis, and typically are not validated after the fact. Thus the organization does not know whether the scorecards and dashboards lead to behavioral changes that improve organizational effectiveness and strategic performance. Validating such impacts using the behavioral modeling in Figure 1 is a ripe area for analytics to make a real contribution.

A journey that has only just begun

We have outlined two tasks: (a) building an HR-ACE, and (b) building a foundation of skills for HR leaders, generalists and non-analytical functional experts to better understand and utilize the skills of HR Analytic experts. These tasks can not be completed overnight. Rather, they represent a journey that may take awhile to complete. But it is a journey that is needed for HR to maximize the power of analytics to add strategic value.

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Figure 1: Behavioral and Predictive Modeling Framework

Individual level factors
- Skills
- Motivation
- Job fit
- Career fit
- Longevity

Group / unit factors
- Composition
- Cohesion
- Communication
- Collaboration
- Leadership

HR / Human Capital initiatives
- Skill building
- Team building
- Rewards
- Career development
- Talent management
- Performance management

Process improvements
- Cost
- Quality
- Volume
- Margins
- Innovation
- Cycle time
- Productivity
- Customer satisfaction
- Organizational learning
- Knowledge management

Strategic performance
- Market share
- Percent of revenue from new products
- Brand awareness
- Customer retention
- Growth in key markets

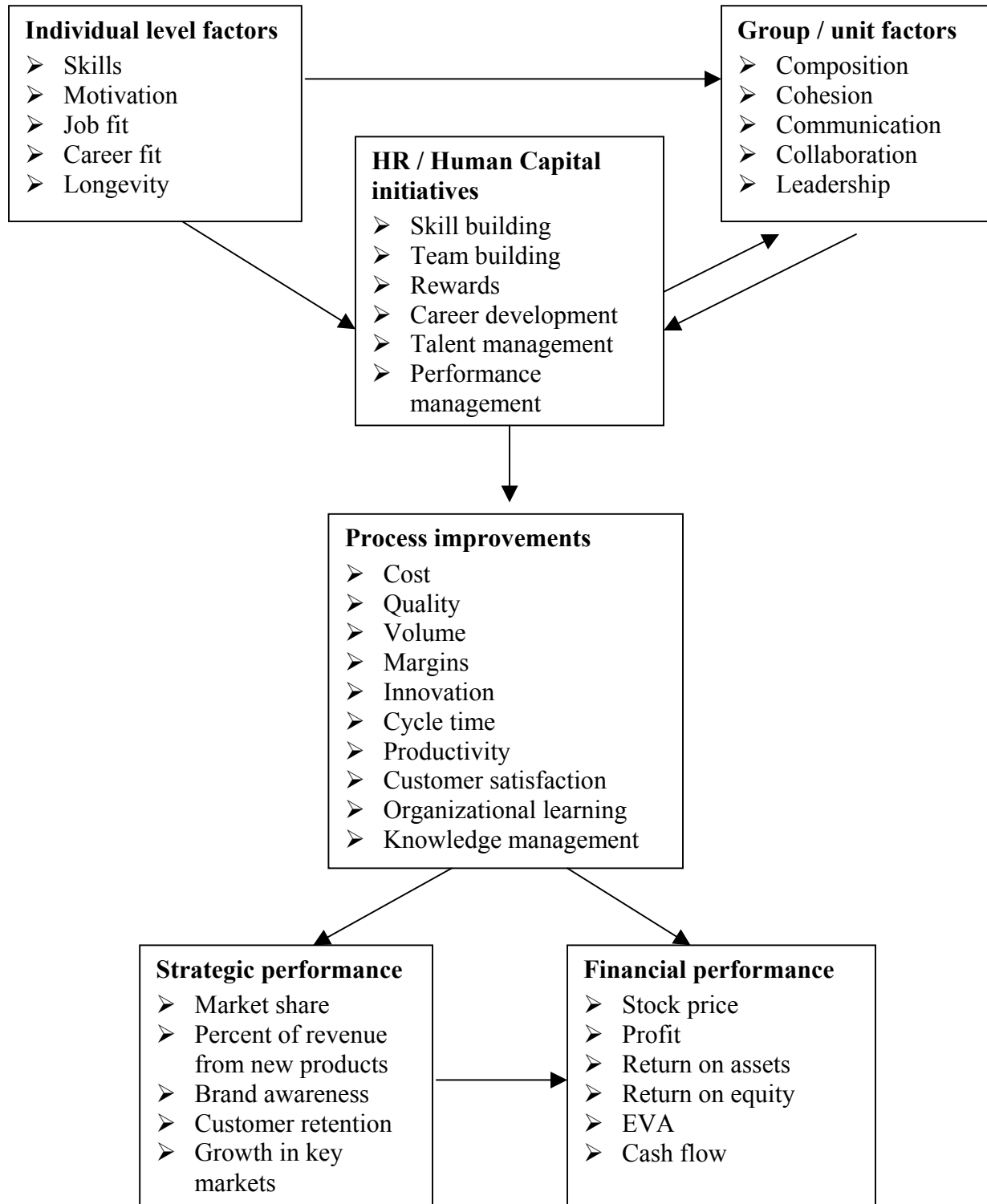**Financial performance**
- Stock price
- Profit
- Return on assets
- Return on equity
- EVA
- Cash flow

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Figure 2: The Evolution of Analysis?