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## Staffing Twenty-first-century Organizations

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### **Abstract**

We highlight important differences between twenty-first-century organizations as compared with those of the previous century, and offer a critical review of the basic principles, typical applications, general effectiveness, and limitations of the current staffing model. That model focuses on identifying and measuring job-related individual characteristics to predict individual-level job performance. We conclude that the current staffing model has reached a ceiling or plateau in terms of its ability to make accurate predictions about future performance. Evidence accumulated over more than 80 years of staffing research suggests that general mental abilities and other traditional staffing tools do a modest job of predicting performance across settings and jobs considering that, even when combined and corrected for methodological and statistical artifacts, they rarely predict more than 50% of the variance in

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performance. Accordingly, we argue for a change in direction in staffing research and propose an expanded view of the staffing process, including the introduction of a new construct, *in situ* performance, and an expanded view of staffing tools to be used to predict future *in situ* performance that take into account time and context. Our critical review offers a novel perspective and research agenda with the goal of guiding future research that will result in more useful, applicable, relevant, and effective knowledge for practitioners to use in organizational settings.

### Introduction

Twenty-first-century organizations differ in a number of important ways from those of the previous century, as several authors have noted (Byrne, 2000; Cascio, 2006a; Colvin, 2000; Engardio, 2006; Hamm, 2006). After a brief review of the characteristics of twenty-first-century organizations, we argue that the current staffing model has reached its upper limit of effectiveness, that current approaches are not well suited for improving the prediction of performance in the fast-paced, global organizations that characterize the twenty-first century, and that there are many opportunities for improvement. We will introduce the concept of *in situ* performance, and argue that, to move forward and make more accurate employee-selection decisions, staffing research needs to attempt to predict *in situ* performance. We will conclude by proposing expanded staffing strategies that are better tailored to meet the demands of twenty-first-century organizations and the environments in which they operate. We limit our review to the staffing process *per se* and not to pre- (i.e., recruiting) or post- (i.e., organizational exit) stages, and caution the reader that our review is not exhaustive. Several recently published articles, and even entire special issues of journals, have provided excellent, comprehensive reviews of the literature (e.g., Hough & Oswald, 2000; Kwiatkowski, 2003; Ployhart, 2006; Sackett & Lievens, 2008; Salgado, 2001), and another such review would be redundant. Rather, our purpose is to conduct a selective review from a particular perspective, with the hope that this perspective may serve as a catalyst for a change in direction in staffing research.

### We Are Not in Kansas Any More: The Twenty-first-century Organization

Sparked by new technologies, particularly the Internet, the organization is undergoing a radical transformation that is nothing less than a new industrial revolution. This time around, the revolution is reaching every corner of the globe. In many ways, the twenty-first-century organization is the polar opposite of its predecessors.

Many factors are driving change, but none is more important than the rise of Internet technologies. The Net gives everyone in the organization, at any level and in every functional area, the ability to access a mind-boggling array of information—instantaneously from anywhere. Instead of seeping out over

months or years, ideas can be zapped around the globe in a heartbeat. By 2009, one quarter of the world's workforce, or 850 million people, will use remote access and mobile technology to work on the go or at home, according to research firm IDC (Schweyer, 2006). That means that the twenty-first-century organization must adapt itself to management via the Web. It must be predicated on constant change, not stability; organized around networks, not rigid hierarchies; built on shifting partnerships and alliances, not self-sufficiency; and constructed on technological advantages, not bricks and mortar.

Yes, change is occurring rapidly, but it is important to emphasize that claims of increased change and instability in the "current" environment are a common and recurring refrain in the management literature, at least since the 1930s (Daffern, 1960; LaPierre, 1958; Margulies & Wallace, 1973). In fact, a large-scale, 20-year analysis of business performance across a variety of industries revealed a lack of widespread evidence that markets are, in general, any more unstable now than they were in the recent past. What managers face today in terms of hyper-competition is largely the same as it ever was. Evidence indicates that stable factors at industry, corporate, and business-unit levels, as well as unstable factors, all significantly affect business performance (McNamara, Vaaler, & Devers, 2003).

In contrast to the hierarchical organization chart of the twentieth-century organization, the twenty-first-century organization is far more likely to look like a web: a flat, intricately-woven form that links partners, employees, external contractors, suppliers, and customers in various collaborations. The players will grow more and more interdependent, and managing this intricate network will be as important as managing internal operations.

Intellectual capital will be critical to business success. The advantage of bringing breakthrough products to market first will be shorter than ever because technology will let competitors match or exceed them almost instantly. To keep ahead of the steep new-product curve, it will be crucial for businesses to attract and retain the best thinkers. Companies will need to build a deep reservoir of talent—including both employees and free agents—to succeed in this new era. More than ever, twenty-first-century organizations are global, and speed is a key objective.

### *Global Reach*

In the beginning, the global company was defined as one that simply sold its goods in overseas markets. Later, global companies assumed a manufacturing presence in numerous countries. The company of the future will call on talent and resources—especially intellectual capital—wherever they can be found around the globe, just as it will sell its goods and services around the globe. Indeed, the very notion of a headquarters country may no longer apply (Dvorak, 2007; Reich, 1990), as companies migrate to places of greatest advantage. The new global organization might be based in the United States (US)

but do its software programming in Sri Lanka, its engineering in Germany, and its manufacturing in China. Every outpost will be connected seamlessly by the Net, so that far-flung employees and freelancers can work together in real time. The authors of this review are typical: the second author worked in Spain and Puerto Rico, while the first worked in Colorado. The Net made seamless collaboration possible, and the time-zone difference facilitated our round-the-clock work.

Sure, globalization is a reality now, but finding and keeping top talent is a growing problem. Talent has become the world's most sought-after commodity, and the changing nature of work makes knowledge workers ever more critical to organizational (and national) competitiveness (The battle for brainpower, 2006). To illustrate, consider three types of jobs identified by the McKinsey Global Institute:

- *Transformational*—extracting raw materials and converting them into finished goods
- *Transactional*—interactions that can be scripted or automated
- *Tacit*—complex interactions involving a high level of judgment. Tacit knowledge is personal and context-specific, and it is difficult to formalize and communicate (Rynes, Bartunek, & Daft, 2001). This category is completely consistent with earlier conceptions of such jobs as low on the dimension of task programmability (Eisenhardt, 1985; Ouchi, 1979).

McKinsey argues that over the past six years, the number of jobs that emphasize “tacit interactions” has grown 2.5 times as fast as the number of transactional jobs, and three times as fast as employment in general. These jobs now make up 40% of the US labor market and account for 70% of the jobs created since 1998. The same thing is bound to happen in developing countries as they get richer (The battle for brainpower, 2006). This has profound implications for staffing and the types of instruments or procedures that firms use to select new employees at all levels or to assess existing ones.

Increasingly, much of the global talent pool lies outside of the US and Europe, as 33 million young professionals with university degrees and work experience now live in 28 low-wage countries. While only 4.6 million of them are ready to work in multinational firms, there are an additional 15 million in eight high-wage nations, including 7.7 million in the US (Despeignes, 2005). The implication? The global search for talent must focus increasingly on building remote capacity as opposed to recruiting foreign talent to domestic shores. That may also imply more customization and adaptation of selection instruments to fit local cultures and languages.

While labor markets have indeed become global in scope, the global demand for talent is outstripping supply. Thus a 2007 survey of nearly 37,000 employers in 27 countries by Manpower, Inc. found that 41% of them are having trouble hiring the people they need (Coy & Ewing, 2007). In fact,

the McKinsey Global Institute predicts that the supply of suitable labor will be squeezed in Prague as early as 2007, it expects to see pockets of skills shortages in India by 2008, and declining workforce growth in China starting in 2012.

In the US, the number as well as the mix of people available to work is changing rapidly. According to the Bureau of the Census, there will be a precipitous drop in the growth of the labor force among prime-age employees between 2000 and 2020, especially college-educated ones. Between 2000 and 2010, the percentage of workers age 55–64 will increase by 52%, while those age 65+ will increase by 30%. Similar trends are underway in almost all developed countries (Dychtwald, Erickson, & Morison, 2006).

At the same time, Generations X (born between 1965 and 1980) and Y (born after 1980), with approximately 50 and 80 million members, respectively, in the US, are large and growing segments of the labor force that pose both challenges and opportunities (Cascio, 2007; Guest & Sturges, 2007). Over the next four decades, non-Hispanic whites will be a slim majority of the US population. Currently, female participation has jumped to 60% from 50% two decades ago, and the long-term trend toward earlier retirement has recently been reversed. The average retirement age is now 64, 75% of retirees want to launch new careers after that, and 42% of those want to cycle between periods of work and leisure (Greene, 2005).

What about people flows in globalization? Freeman (2006) has shown that aging populations and low birth rates in advanced countries, coupled with huge disparities in pay around the world and increased education in developing countries, are likely to lead to increased immigration in the decades ahead, even with current immigration policies. In the near future, therefore, workforces are likely to become even more global than they are now.

### *It's about Speed*

Call it the innovation imperative. Competition is more intense than ever because of the rise of the Asian powerhouses and the spread of disruptive new Internet technologies and business models. If companies are to thrive in this hyper-competitive environment, they must innovate more and faster. Here's just one example. Just a few years ago in the cell-phone business, Nokia, Motorola, and others used to take 12–18 months to develop basic models. Today it takes only 6–9 months. With everything from product cycles to employee turnover on fast-forward, there is simply not enough time for deliberation or bureaucracy.

The twenty-first-century organization will not have one ideal form. Some will be completely disaggregated, wholly dependent on a network of suppliers, manufacturers, and distributors for their survival. Others will be less so. Some of the most successful companies will be very small and very specialized. Others will be gargantuan in size, scope, and complexity. In this fast-paced,

global environment, staffing challenges, among other management issues, loom large, as Foulkes, Vachani, and Zaslow (2006) noted:

We believe that global sourcing today is different from that of earlier years and that the potential impact for the U.S. workforce in the coming decades will be vast. While much can be learned from companies' past globalization efforts, four factors distinguish contemporary talent sourcing in services from past experiences:

- More industries and occupations are being affected;
- Services make seamless human interactions more critical;
- Talent sourcing is now simultaneously both global and local; and
- Global sourcing arrangements for services are being decided upon and implemented faster

(p. 258)

To appreciate what these new trends mean for staffing, consider results of a recent study by DNL Global of the differences in competencies between managers of local projects and global projects, and managers that were identified as top-performing global managers (Schweyer, 2006). Results indicated that four key skills were required of global managers:

- *Adaptability*—Eight different dimensions comprise this construct (Pulakos, Arad, Donovan, & Plamondon, 2000): handling emergencies or crisis situations; handling work stress; solving problems creatively; dealing with uncertain and unpredictable work situations; learning work tasks, technologies, and procedures; and demonstrating adaptability—interpersonal, cultural, and physically oriented.
- *Global mindset*—Global managers have more of a “cosmopolitan” than a “local” perspective on events and issues. The former includes sensitivity to multiple cultures and their differences, work experience in more than one country, and knowledge of and a willingness to seek customers, technology, supplies, innovations, and employees from throughout the world (Evans, Pucik, & Barsoux, 2002).
- *Cultural agility*—One who respects other cultures, people, and points of view; is not arrogant or judgmental; is curious about other people and how they live and work; is interested in differences; is socially competent, empathetic, and gets along well with others (McCall & Hollenbeck, 2002).
- *Relationship management*—Many issues today require collaborative decision making and problem solving. Indeed, as problems become more complex, “knowing who” becomes more important than “knowing how”. Leaders do not have to be experts on every issue, but they must know when and from whom to seek input according to their specific needs.

Successful managers may already possess these skills, but these findings show that the level of proficiency dramatically increases with top-performing global managers.

### *How Global Reach and Speed Affect the Nature of Work*

Given the complexity and volatility of global projects (and domestic ones as well), it is not surprising that high-performing global managers have a tendency toward characteristics such as energy, stamina, drive, spontaneity, and the need for flexibility. Counter-intuitively, however, they also tend to score low in self-reliance (Schweyer, 2006). This begins to make more sense, however, if we think of “team reliant” as being the opposite of “self-reliant”, and if we consider the need for the virtual global manager to depend on team members on the opposite side of the world whom he/she has never met.

Not surprisingly, top-performing local project managers do not always make a successful transition to managing “global” projects staffed by remote team members. Those who have done so seem to have much higher-than-average task orientation and greater-than-normal expectations of themselves. In addition, successful global project leaders who are able to deal with the less tangible forms of interactions between members of remote, geographically dispersed teams tend to be more collaborative than assertive, and less in need of traditional social structures in the workplace.

The stakes are high in finding, developing, and retaining managers who fit this profile, whether they are located in Albania or Zambia. To be sure, networked organizations have the potential to accelerate creativity, speed, and innovation. They have the potential to develop game-changing new business models. Yet none of this will just happen on its own. The most successful organizations of the future will be those that are adept at leveraging global talent to transform themselves and their industries (Engardio, 2006).

### *Summary*

Twenty-first-century organizations tend to display features such as the following: a heavy dependence on technology to leverage the power of the Internet; tightly integrated networks of globally dispersed operations; multiple forms of organization as well as multiple forms of alliances; reliance on intellectual capital, innovation, speed to market, and global reach to achieve organizational objectives; and sourcing and retaining talent at various organizational levels from global labor markets. While not all organizations display these features, and they will not affect all jobs, as a group they raise a fundamental question, namely, how should we go about selecting people to work in these organizations? Before we answer that question, let us first review the current approach to staffing.

## The Current Staffing Model and its Limitations

The current staffing model originated in the field of psychology and has developed over many decades (Cascio & Aguinis, 2005a). Essentially, it consists of defining the work to be done, identifying individual-level characteristics that are hypothesized to predict performance with respect to the work to be done, and developing measurement instruments to assess the relative standing of job applicants on each of the individual-level characteristics (Binning & Barrett, 1989). Then applicants are rank-ordered based on their relative standing, and those with the best scores are selected for the job in what is called a “top-down” fashion (Aguinis, 2004b).

The measures used to predict performance have been perfected over time (Cascio & Aguinis, 2005b), are quite diverse, and assess information collected directly from job applicants or indirectly from other sources (e.g., past employers). Some types of measures are typically used at the beginning stages of the selection process as pre-screening devices. A set of measures that is consistent with the current staffing model (Schmidt & Hunter, 1998) may include biographical data collected using application blanks (Schmitt et al., 2007), integrity tests (Berry, Sackett, & Wiemann, 2007), and drug testing (Haar & Spell, 2007). Often those job applicants who successfully complete the initial screening stage may be required to pass a background check (Connerley, Arvey, & Bernardy, 2001) and, if they do, they may be given paper-and-pencil or computer-administered tests that assess their general mental abilities (GMA) and personality traits (Behling, 1998; Hogan, Davies, & Hogan, 2007; Morgeson et al., 2007), followed by an interview (Chapman & Zweig, 2005). Finally, for managerial and other high-level jobs, there may be an additional stage, including a work-sample test (Roth, Bobko, & McFarland, 2005) or an assessment center (Lance, Woehr, & Meade, 2007), in which applicants must demonstrate specific knowledge and skills by performing a limited number of job-related tasks in a controlled environment.

The development of instruments used to predict future performance is supported by a multi-billion dollar industry, and there is an ongoing interest in this topic on the part of researchers. For example, consider the results of a content analysis of the 5780 articles published between 1963 and May 2007 in *Journal of Applied Psychology* (JAP) and *Personnel Psychology* (PPsych) (Cascio & Aguinis, in press). In this review, we found that the topic “predictors of performance” was addressed by about 20% of articles in JAP and about 13% of articles in PPsych over the 45-year period, making it the second most popular topic in JAP and the third most popular topic in PPsych (out of a total of 15 broad topical areas).

Given the 554 articles published in JAP and 284 articles published in PPsych since 1963 on the topic of predictors of performance (Cascio & Aguinis, in press), one would think that we are now able to predict performance almost



perfectly. Unfortunately, this is not the case. The field has made great advances if one compares the methods used relative to not using any predictors of performance at all in the selection process (cf. Schmidt, Hunter, McKenzie, & Muldrow, 1979). In what other situation, however, would we evaluate the relative success of an innovation against such an easy-to-beat yardstick? Would we evaluate the success of a new plasma-screen television model by counting how many units have been sold, compared to not selling any type of screen? Alternatively, would we evaluate how effective an organization's customer-service operations are compared to not having any customer-service operations at all?

How well is the current staffing model *really* doing? After reviewing hundreds of studies conducted between 1919 and 1972, Ghiselli (1963, 1973) reported that the best predictors of managerial success are tests of general intellectual ability and general perceptual ability. The correlations between these predictors and performance (that is, validity coefficients) range from .25 to .30. More recent reviews report higher correlations (i.e., in the .40s and even .50s [Schmidt & Hunter, 1998]), but these are correlation coefficients corrected statistically for measurement and other statistical and methodological factors that affect correlations adversely. They are not observed or operational correlations. Corrected correlations are adjusted upwardly for the effects of measurement error, range restriction, and other methodological and statistical artifacts (Aguinis, Sturman, & Pierce, 2008). These corrected correlations are, in some instances, two to four times as large as the values of the actual, observed correlation coefficients (Schmitt, 2007). Although corrected correlations are of theoretical interest, operational correlations are the ones used in actual organizational contexts. Hence, the apparent improvement in our ability to predict performance over the past decades is not due to better and more innovative ways of predicting performance. Instead, this apparent improvement is due to the use of statistical-correction techniques that yield estimates of what the correlation would be in an ideal world in which measurement is error-free, samples are large, there is no range restriction, and so forth. As we know all too well, however, this ideal world is drastically different from the one faced by individuals charged with making hiring decisions in actual organizational settings, particularly in twenty-first-century organizations. Seminal findings, as summarized in meta-analytic studies of selection methods (e.g., Schmidt & Hunter, 1998), need to be augmented with new thinking and new approaches.

The current staffing model seems to have reached a ceiling or plateau in terms of its ability to make accurate predictions about future performance. Why is it that in spite of the tremendous amount of research published on the topic of predictors of performance, our ability to predict performance has not improved much in the past few decades? The current model has several important limitations, and many of these are likely explanations for why we

are not able to make more accurate predictions about performance. Consider the following selective set of seven such limitations, which are becoming more and more evident as we enter the twenty-first century.

#### *Levels-of-analysis Limitation*

Usually, information about future performance is gathered at the individual level of analysis. In other words, the concern is with, for example, an individual's personality or an individual's GMA. More recently, researchers have begun to pay attention to the context within which an individual performs and to the links between individual and organizational performance (e.g., Cappelli & Sherer, 1991; Johns, 2006; Mowday & Sutton, 1993; Ployhart & Schneider, 2002; Rousseau & Fried, 2001). In most jobs, individuals do not work in a vacuum, or completely independently of others. Instead, individual performance is highly dependent on the performance of other team members (Aguinis, 2007; Salas, Burke, & Fowlkes, 2006). Predictors such as situational judgment tests do attempt to place job applicants within a specific context by asking them to put themselves in hypothetical situations, but we advocate a broader approach that links individual and organizational performance. After all, the same individual may be a top performer in an organization with a culture of collaboration, but a poor performer in another one with a culture of individualism and high competitiveness.

#### *Behavioral-consistency-assumption Limitation*

The current staffing model rests on the assumption that an individual's past performance is the best predictor of his or her future performance. This behavioral-consistency assumption is generally true as long as the ability requirements and context of the future job situation are similar to previous ones (Schmidt & Hunter, 1996). As we described earlier in this chapter, however, the future world of work is likely to be very different from the past one. Hence, an individual who performed well in an organization in which he or she was physically co-located and engaged in face-to-face interactions with customers and colleagues may not perform equally as well in a virtual team or organization in which there is no face-to-face interaction.

#### *Thin-slices-of-behavior Limitation*

The current staffing model relies on thin slices of behavior: one or several short interviews, a paper-and-pencil or computer-administered test (Tippins et al., 2006) that may last a maximum of one or two hours, an assessment center that also may last a few hours, and so forth. In other words, only a small number of behaviors are observed, and, based on this limited number of behaviors, predictions are made about future on-the-job performance. Note that people are more accurate than chance alone at judging certain attributes of others, including sexual orientation (Ambady, Hallahan, &

Conner, 1999), clinical and social psychological variables (e.g., Ambady & Rosenthal, 1992), and even variables hypothesized to be predictive of performance for certain jobs (e.g., sales), such as motivation and trustworthiness (Ambady, Krabbenhoft, & Hogan, 2006), based on thin slices of behavior. However, predicting others' future performance in complex twenty-first-century organizational environments is a very different challenge. A limitation of the current staffing model is that measurement is often deficient (Bowler & Woehr, 2005). In other words, because only a few behaviors are observed in a limited number of situations, the information gathered is not sufficient to make accurate predictions about a wide range of behaviors that will take place in actual work settings.

#### *Non-representative-behavior Limitation*

An issue concerning the relatively short duration of the selection process is that the relationship between performance when one is being monitored versus when one is unmonitored is very weak (DuBois, Sackett, Zedeck, & Fogli, 1993). In other words, an individual who performs very well under maximum-performance conditions (monitored) may not perform as well under typical, on-the-job performance (unmonitored). Thus, the current staffing model not only includes thin slices of behavior, but these thin slices of behavior may not be representative of the much broader performance domain and the context in which on-the-job behavior occurs.

#### *Adverse-impact Limitation*

Measures of GMA are the best single predictors of performance, particularly for high-complexity jobs (Schmidt & Hunter, 1998). However, such measures also lead to the largest race-based differences in test-score means, and, consequently, differential passing rates and differential selection rates (Aguinis & Smith, 2007; Hough, Oswald, & Ployhart, 2001; Outtz, 2002). The presence of differential selection ratios across groups, or what is called adverse impact, has serious societal implications and, hence, is an important limitation of the current staffing model that relies on GMA as the predictor of choice in most situations (e.g., Le, Oh, Shaffer, & Schmidt, 2007). This is an additional important limitation of the current staffing model given the demographic changes noted earlier. When faced with a choice, many organizations will choose a less valid selection system that produces lower adverse impact than a more valid one that includes GMA as a predictor. Their motivation for doing so is twofold: (1) diversity is an important organizational goal; and (2) they fear legal challenges to selection systems that produce high adverse impact against protected groups. A major challenge for our field, in addition to developing selection systems that minimize adverse impact, is to articulate the economic and organizational consequences of using less valid systems (Aguinis & Harden, 2004).

*Overestimation-of-estimated-payoffs Limitation*

Using the current model of staffing, researchers have created methods to estimate the economic utility of various selection tools (Brogden, 1946, 1949; Cabrera & Raju, 2001; Cronbach & Gleser, 1965), and the use of those procedures often produces estimated payoffs in the millions, possibly even in the hundreds of millions, of dollars (Le et al., 2007; Schmidt et al., 1979).

Clearly the implications of valid selection procedures for work force productivity are much greater than most of us might have suspected, but are they as high as these studies suggest? As Cascio and Boudreau (2008) have noted, standard investment analysis suggests that considerations such as the costs of improved performance, inflation and risk, and the tax implications of higher profits from better selection should all be accounted for in order to make these estimates comparable to investment calculations for more traditional resources. In fact, there are at a number of considerations—some of which increase payoffs and some of which decrease them—that, when taken into account, help to make staffing payoffs more realistic, and better connected to traditional financial logic (Cascio, 1993). Five of these are: (1) economic factors such as variable costs, corporate taxes, and discounting (Boudreau, 1983a); (2) employee flows, or additive cohort effects (Boudreau, 1983b); (3) probationary periods (De Corte, 1994); (4) the use of multiple selection devices (which, in combination, should yield higher validity coefficients); and (5) departures from top-down hiring (Murphy, 1986).

Sturman (2000) used computer simulation of 10,000 scenarios, each of which comprised various values of the five factors just noted. Accounting for economic variables had the largest effect, followed, in rank order, by multiple selection devices, departures from top-down hiring, use of a probationary period, and employee flows. These results suggest that although valid selection procedures may often lead to positive payoffs, actual payoffs may be much lower than unadjusted ones, and they depend significantly on organizational and situational factors that affect the quantity, quality, and cost of the selection effort.

*Type-of-job Limitation*

Application of the current staffing model has been limited when applied to the selection of executives or expatriates, although a thorough treatment of these issues is beyond the scope of this review (see, for example, Collings & Scullion, 2006; Silzer, 2002). Here is just one limitation in the selection of executives, as Hollenbeck (2007) has noted. We tend to focus on competencies, competence, and character, in that order. Following the current selection model, competencies do predict performance if behavior and performance are linked closely, but in executive jobs, no specific behavior is linked to performance outcomes, for there are many-faceted ways to perform executive jobs successfully. Hollenbeck (2007) argued that we use the wrong tools and focus on the

wrong things. In his view, executive-selection researchers should focus on character first, competence second, and competencies third. Organizations need to articulate clearly what their values are; then the measurement task is to assess the alignment of each candidate's character, competence, and competencies with the espoused values. Research is clearly needed to assess the validity of this approach.

With respect to selection for international assignments, Hough and Oswald (2000, p. 649) noted that "validities of domestic selection instruments may not generalize to international sites because different predictor and criterion constructs may be relevant, or, if the constructs are the same, the behavioral indicators may differ". Unfortunately, with few exceptions (e.g., Lievens, Harris, Van Keer, & Bisqueret, 2003), the selection process for international managers is largely intuitive and unsystematic. Perhaps the major problem is that expatriates are often selected *only* on the basis of their technical skills (Aryee, 1997; Schmit & Chan, 1998). Yet empirical evidence shows that three personality characteristics are related both to completion of an overseas assignment as well as to supervisory ratings on that assignment (Caligiuri, 2000). These are extroversion and agreeableness (which facilitate interacting and making social alliances with host nationals and other expatriates), and emotional stability. In order to improve overseas staffing, and to make it more systematic, it is essential that researchers develop a thorough understanding of cultural differences (Harris, Moran, & Moran, 2004), situational constraints that expatriates face in doing business in different parts of the world, and the unique ways that personality and temperament relate to success in such assignments (Cascio, 2006b).

### *Summary*

Current approaches to staffing have been perfected over the past 80 years or so, and include a wide variety of assessment methods and modes of data collection. Indeed, "predictors of performance" is an extremely popular topic in the fields of management and applied psychology, as reflected in how often these topics appear in top journals in the field. Despite its popularity, the current staffing model has not shown major improvements in its ability to predict performance in recent decades, and many practitioners do not seem convinced of its merits. To some extent, this may be due to a combination of limitations that include the following: a near-exclusive focus at the level of the individual, the assumption of behavioral consistency, a focus on thin slices of behavior and behavior that may not be representative of actual performance on a job, selection systems that produce high levels of adverse impact, over-estimation of expected economic payoffs from the use of valid selection procedures, and limited applicability of the traditional model when applied to executives and expatriates. While many existing selection methods perform well, we believe that genuine improvement in the ability to forecast job performance lies in

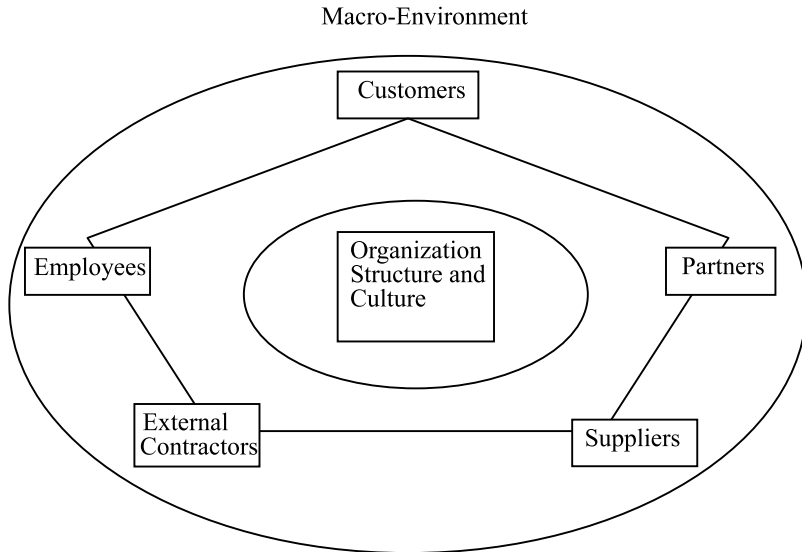
more careful specification of the domain of performance, together with increased effort to demonstrate point-to-point correspondence between predictors and the wide range of elements of the performance domain. We call that domain “*in situ* performance”.

### A New Target for Staffing Decisions: *In Situ* Performance

We define *in situ* performance as the specification of the broad range of effects—situational, contextual, strategic, and environmental—that may affect individual, team, or organizational performance. Situational effects include those currently captured through techniques such as realistic job previews, situational interviews, and cultural assimilators. They also include the effects of time and technology. Contextual effects include those that comprise both omnibus and discrete contexts (Johns, 2006). Strategic effects describe the goals or objectives that the organization seeks to achieve. Finally, environmental effects include those that surround the organization, such as technology, regulatory, demographic, and competitive dynamics. Such specification provides a richer, fuller, context-embedded description of the criterion space that we wish to predict (cf. Osterman, 2007). Also, it captures the important changes in twenty-first-century organizations regarding technology, speed, globalization, pace of change, and organizational structures. *In situ* performance captures how work is done in twenty-first-century organizations. Figure 3.1 illustrates these ideas graphically.

To put this definition into perspective, let us distinguish our definition from several other related constructs and terms. The first is situational specificity, the doctrine that validity generalization has debunked (McDaniel, 2007; Schmidt & Hunter, 1998). That doctrine holds that there are undiscovered characteristics of the validity setting (the situation) or the job that cause tests to be valid in one situation, but less valid or not valid in another one. This is not what we are referring to. Rather we are referring to a broader set of criterion constructs that may affect job performance than task performance *per se*. One such set is called “lifespace variables”.

Although most people would agree that a person’s performance on a job may be affected by conditions surrounding that performance, most research investigations are conducted without regard for the possible effects of variables other than those measured by predictors. Lifespace variables—such as personal orientation, job stress, or cosmopolitan versus local orientation—are just one example. Vicino and Bass (1978) used four lifespace variables (task challenge on first job assignment, life stability, supervisor–subordinate personality match, and immediate supervisor’s success) to improve the prediction of management success at Exxon. The four variables accounted for an additional 22% of the variance in success on the job over and above Exxon’s own prediction system based on aptitude and personality measures. They obtained the equivalent of a multiple  $R$  of .79.



**Figure 3.1** Factors Affecting *In Situ* Performance: Macro-environment (e.g., Economic, Legal, Political/Regulatory, Technological, Demographic, Factors of Production); Stakeholders Who Are Networked Through the World Wide Web (Customers, Employees, Suppliers, Partners, and External Contractors); and Organizational Structure and Culture (e.g., How Work Gets Done, Social and Demographic Environment, Key Strategic Objectives, Norms of Behavior).

*In situ* performance also refers to more than simply a holistic view of individual performance. Such a view was used first by German military psychologists during World War II. They felt that paper-and-pencil tests took too “atomistic” a view of human nature. They chose instead to observe a candidate’s behavior in a complex situation to arrive at a “holistic” appraisal of his reactions. This work formed the basis of the approach to assessment that later became known as an assessment center (McKinnon, 1975). It captures much of what *in situ* performance reflects, but certainly not all of it.

*In situ* performance includes context—situational opportunities and constraints that affect the occurrence and meaning of behavior in organizations—as well as functional relationships between variables (Johns, 2006). *In situ* performance is also different from what has been defined as contextual performance, which refers to those behaviors that contribute to the organization’s effectiveness by providing a good environment in which task-related performance can occur (Borman, 2004). In support of our proposed concept of *in situ* performance, Johns (2006) has noted that “Some quantitative researchers seem almost desperate to ensure that reviewers and readers see their results as generalizable. To facilitate this, they describe research sites as blandly as possible—dislocated from time, place, and space—and omit details of how access was negotiated” (p. 404). Yet if we are to understand

and predict person–situation interactions (Aguinis, 2004a; Aguinis, Beaty, Boik, & Pierce, 2005), a broader description of context is necessary, specifying who was studied, where they were studied, when, and why. Why is this important? Because as Johns (2006) and Rousseau and Fried (2001) have shown, context restricts the range of variables under consideration, it affects base rates, changes causal direction, reverses signs between key variables, prompts curvilinear effects, and may threaten the generalizability of results.

In our opinion, one of the main problems with the current model is that it ignores context and considers performance isolated from context, the opposite of *in situ* performance. For example, Le et al. (2007) stated that general GMA tests “are excellent predictors of performance on the job and in training for all jobs in all settings” (p. 8). Unfortunately there are several problems with this assertion. “Excellent” is not that good in terms of predicting. As noted earlier, observed correlations are in the .20s and .30s. Only after all statistical corrections are applied do they rise to about .50, which means that only about 25% of the variance in performance is explained (and this is the most optimistic estimate). Given the complexity of human behavior, we doubt we will ever reach the ideal goal of explaining 100% of the variance, but we are currently far from this ideal goal. So, even if validity generalizes, it generalizes only modestly if we consider the goal of predicting performance accurately.

In the context of performance appraisal, Murphy (2008) notes the weak relationship between job performance and performance ratings, and argues for more widespread use of multi-factor models that place a premium on a careful analysis of the context within which performance is observed and ratings are obtained. Context, as we have noted, is an important feature of *in situ* performance.

In our view, it is not really surprising that practitioners do not seem to follow the current staffing model (Ployhart, 2006; Rynes, Colbert, & Brown, 2002). It generally does not provide enough information for making such important decisions. Thus, practitioners try to get information from other sources (e.g., gut feeling, multiple unstructured interviews, and so forth). It is difficult to criticize practitioners for not implementing “best staffing practices” when those practices are not meeting their needs. In spite of claims to the contrary, the current staffing model is often not successful at reducing uncertainty in hiring decisions to a degree that practitioners find unequivocally useful, particularly in light of the challenges posed by twenty-first-century organizations.

If one considers *in situ* performance, it is evident that GMA should not be the *only* predictor for all jobs. To illustrate, consider the well-known case of *EEOC v. Atlas Paper Box Co.* (1989). In that case the Sixth Circuit Court of Appeals refused to accept the validity of a measure of general intelligence that relied on evidence of validity generalization (Schmidt & Hunter, 1977). Atlas did no job analyses to establish the appropriateness of validity generalization



for the jobs in question, nor did Atlas's expert ever visit the company or even read the studies that formed the basis for the company's validity-generalization argument. The expert witness simply contended that the use of a measure of general intelligence is always a valid predictor. At the trial-court level, the expert was unable to support this premise when confronted with a hypothetical applicant for a firefighter position who is confined to a wheel chair and who earns the highest score on a paper-and-pencil test. Obviously the domain of relevant job performance for a firefighter includes more than cognitive ability alone.

### An Expanded View of the Staffing Process

If we critically evaluate the evidence accumulated over more than eight decades of staffing research (e.g., Schmidt & Hunter, 1998), we conclude that GMA and the other traditional tools do a mediocre job of predicting performance across settings and jobs considering that, even when combined, they rarely predict more than 50% of the variance in performance. New predictors have been proposed over time, including a resurgence in measures of personality traits, but they do not make substantial improvements in our ability to predict performance (Morgeson et al., 2007a,b). The continued lack of success in predicting performance accurately points to the need for a substantive change of perspective regarding the staffing process.

Yes, making hiring decisions using GMA is more accurate than random selection if we know nothing about the job and the context in which the job is performed. However, how many actual organizational settings are there where staffing decision makers are faced with the choice of using GMA or using random selection and know nothing about the context in which the job is performed? Taking this into account, again it is not surprising that in many cases practitioners do not follow the current staffing model (Ployhart, 2006). It just does not seem to apply to their daily realities. So, our proposal is two-fold. First, as detailed in the previous section, we advocate an expansion of the concept of performance (i.e., the target of prediction). Second, we advocate an expansion of the principles that guide the development of predictors of performance. We believe that research that departs from the traditional way of thinking about predictors of performance will lead to tools with greater potential to predict performance more accurately.

#### *Expanding the View of Performance*

Our expanded view of the staffing process involves a revised definition of the target of prediction to *in situ* performance. If performance is not defined within context, we will never be able to predict it well because it is simply impossible to hit a target in the dark. Staffing researchers and practitioners need to be very clear about the nature of the performance that they seek to predict. For example, is it performance in jobs that comprise "post-industrial

work” (low task programmability and outputs that are difficult to measure (as in a research and development laboratory), or work that can be specified in detail and its outcomes measured objectively (as in food preparation) (Eisenhardt, 1985; Ouchi, 1979)? While many jobs in the future will be tacit or post-industrial, as we noted earlier, many other jobs will not be—for example, those in construction, transportation, semi-skilled work, many types of patient care, hospitality, extraction, and many types of sales. Specification of *in situ* performance becomes more important as jobs become more tacit in nature.

The current staffing model is simplistic. It advocates that context rarely matters and that there are no moderator variables that help to identify sub-groups. The test used to assess whether the situational specificity hypothesis is valid is to evaluate whether validities are greater than zero across all settings. The same type of test is used for various types of selection measures, including those that assess various personality dimensions (e.g., Morgeson et al., 2007b). Correlations between personality and performance in the .10s (which are greater than zero) are presented as evidence that personality testing “works”. Even if a validity coefficient reaches .20, which would explain 4% of the variance in performance, it likely would not pass the “so what” test among practitioners, and is not likely to be seen as solving their need to make accurate hiring decisions. This is true despite the fact that low validities can still be useful if selection ratios are low and organizations have the luxury of choosing only the “cream of the crop” of applicants, or that economic utility can still be substantial if the cost of an error is high (Cascio, 2000). In short, the first part of our proposed approach involves re-defining performance as *in situ* performance. Figure 3.2 contrasts the basic features of the current staffing model with the proposed one.

### *Expanding the View of Predictors of Performance: Three Guiding Principles*

We propose an expansion in how we conceptualize predictors of performance. This expansion relates to the need to address each of the seven limitations of the current staffing model that we described earlier. The challenge is to propose a conceptualization of predictors that would consider levels of analysis, would not rely on the behavioral-consistency assumption, would not

#### **Current Staffing Model**

Job analysis → Identify and assess individual-level characteristics → Rank-order scores → Goal: Predict individual-level job performance

#### **Proposed Staffing Model**

Define *in situ* performance (Multi-dimensional, multi-level) → Identify and assess predictors of individual or team *in situ* performance that take into account context and time → Goal: Predict individual or team *in situ* performance

**Figure 3.2. Basic Features of the Current and Proposed Staffing Models.**

consider thin slices of behavior only and non-representative behaviors, would minimize (or eliminate) adverse impact, would produce realistic and accurate estimates of selection payoffs, and would apply to selection for executive and international assignments. Obviously, this is a quite a challenge and it will take time and resources to develop such methods. First, we offer three guiding principles that should be considered in developing such predictors, and then we discuss three types of predictors that might serve as the beginning of a long-term research agenda to develop these tools and create new ones.

*The role of time.* Predictors of *in situ* performance should consider the preeminent role of time. Consider work groups, for example, most of which function over an extended period of time. Unfortunately, as numerous writers have noted, much of that research focuses on short-term groups, or measures outcomes within a narrow timeframe (McGrath, Arrow, & Berdahl, 2000; McGrath & Tschan, 2004; Watson, Kumar, & Michaelson, 1993; Williams & O'Reilly, 1998). The few exceptions in social psychology and in management research indicate that group processes change over time in response to variables such as team-member orientation, social integration, interactions, awareness of time, and leadership processes (Chang, Bordia, & Duck, 2003; Gersick, 1988; 1989; 1991; Hackman, 1992; McGrew, Bilotta, & Deeney, 1999; Tuckman, 1965; Tuckman & Jensen, 1977).

To a large extent, the emphasis on studying short-term groups may be attributed to a research paradigm that exalts experimental studies. As McGrath and Tschan (2004) note, that paradigm encourages researchers to work with short-term designs that treat the systems under study as static entities; it tends to emphasize only directional, linear, and efficient causal forms; and it isolates the systems under study from their embedding contexts. Such studies do not permit researchers to assess the effects of group processes such as the development of norms, strategies for resolving conflicts, problem solving, or group cohesion. In practice, as McGrath et al. (2000) noted, groups are inherently dynamic systems, operating via processes that unfold over time, with those processes dependent both on the group's past history and on its anticipated future.

The problem of having a short time frame in studying heterogeneous groups is analogous to the range-restriction problem in correlational analysis. Without seeing the full range of the variables involved, a researcher might mistake a curvilinear relationship for a positive correlation, a negative correlation, or a null correlation, depending on the range of values of the variable that he or she observes.

At the level of the individual, predicting his or her future performance by observing him or her engage in certain tasks and behaviors for a few hours, or even a day or two, is not sufficient to make accurate predictions about future performance. Measurement that takes place over short periods of time, as is

done by implementing the current staffing model, is likely to result in thin slices of behavior that are not representative. Thus, an important guiding principle in the development of predictors is that measurement should take place over extended periods of time. This, of course, does not address the needs of practitioners for selection methods that are faster and cheaper.

*The role of context.* A second guiding principle for developing predictors is that context must be taken into account. The global and fast-paced nature of twenty-first-century organizations demands that individuals be evaluated within a work context that reflects the important variables of technology and other people (including customers, peers, subordinates, and supervisors). In other words, a second guiding principle for developing predictors is that the selection environment must emulate the work environment. This principle suggests going beyond the creation of “realistic” environments as is done in designing assessment centers or training programs (Aguinis & Kraiger, in press). It involves creating a context with all of its complexity and situational, contextual, strategic, and environmental constraints.

*Using present in situ performance to predict future in situ performance.* It should be clear by now that what we advocate is the measurement of present *in situ* performance to predict future *in situ* performance. In contrast, the current staffing model uses individual knowledge, skills, abilities, and other individual characteristics (KSAOs) assumed to underlie certain predictors to make predictions about future job performance that is also assumed to be determined by the same KSAOs. The predictors used in the current staffing model are just too far removed from performance to be able to predict it effectively. To use an analogy, the current staffing model measures the 10% of an iceberg that floats above the surface of the sea to try to predict the shape and form of the remaining 90% that is invisible. Our expanded view of the staffing process involves observation of most of the volume of the iceberg.

Are we proposing a Quixotic view of the staffing process? From an operational and practical standpoint, what types of measurement tools can be used that might consider the role of time and context and might allow for the measurement of present *in situ* performance with the goal of predicting future *in situ* performance? Next, we describe three types of such tools.

### Examples of Staffing Tools to Predict *In Situ* Performance

Given that the current staffing model is not embraced by practitioners, it seems that at least some organizations would have found ways to make more accurate predictions about performance, especially since staffing is one of the most critical decisions in organizations. Two such practices that have great potential to become effective predictors of future *in situ* performance are internships and contingent work arrangements. These practices are already

implemented in numerous organizations, but they are rarely used formally as staffing tools. In addition, the use of virtual-reality technology also has great potential as a staffing tool to predict *in situ* performance for some jobs. Each of these three staffing tools takes time and context into account. Each has the potential to overcome many of the limitations we described earlier regarding the current staffing model. For example, they assess individuals' performance within a context (i.e., consider levels-of-analysis issues), do not rely on thin slices of non-representative behaviors, can be used in a wide variety of jobs, and have the potential to minimize adverse impact because they assess performance instead of distal predictors of performance (cf. Hough et al., 2001). In short, internships, contingent work arrangements, and virtual-reality technology are good examples of tools with great potential to be used in staffing twenty-first-century organizations.

### *Internships*

Internships are short-term assignments, paid or unpaid, usually over a summer or a semester, in order to provide the intern with experience *in situ*. Thus, they take place over time and within a specific context. They are quite common, with 84% of college students reporting that they will do at least one internship before graduating (MacDonald, 2007). When they are designed well, whether the focus is engineering, computer science, strategy, operations, accounting, finance, marketing, human resources, or any other area, companies can use internships as valuable sources of future talent, particularly for entry-level positions (Gordon, 2007). Unfortunately, there is often a gap between students' expectations and the reality they find if there is not a defined project or assignment during the internship.

Evidence indicates that deal makers or breakers in terms of whether students will accept full-time jobs with the companies for which they interned are job content and the quality of the managers they work with. Managers model what it is really like to work for the company, and in that role, they convey a tremendous amount of information to their interns.

More generally, interns want exposure to high-ranking officials and other interns through meetings, small get-togethers, and other activities. Inclusion in departmental meetings, sufficient training, and at least an in-depth performance review are reasons why students go back to companies after graduation. Those who accepted subsequent job offers had their expectations exceeded on 20/24 surveyed areas, compared with only 8/20 among those who declined job offers (Gordon, 2007).

International internships are also becoming more popular. According to the Institute for the International Education of Students, 25% of its 5000 annual study-abroad participants now do an internship, up from 17% in the 1980s and 21% in the 1990s (MacDonald, 2007). One student, for example, agreed to work for free at Universal Music's Buenos Aires office. Soon he was

translating interviews with American rock stars for his boss, who did not speak English. The boss could therefore observe his performance *in situ*. Overseas internships often are unpaid, either because organizations do not have the budget to pay for them, or because local laws prohibit the short-term hiring of foreigners (MacDonald, 2007).

### *Contingent Work Arrangements*

Millions of people around the world go to work each day for organizations with whom they have no signed contract and of whom they may have little or no knowledge. These workers toil for more than one boss, may work less than a full day, and may receive little or no recognition or respect from co-workers. (Lee & Faller, 2005, p. 831)

This is a description of the contingent workforce—often referred to as temporary, outsourced, or sub-contracted workers—who do not have an implicit or explicit understanding of long-term employment (Polivka & Nardone, 1989).

Contingent work arrangements may assume a variety of forms (Marler, Barringer, & Milkovich, 2003). They are a reality of twenty-first-century organizations. In the US, 90% of companies use contingent workers, more than 2.5 million every day. For example, United Parcel Service routinely hires many of its full-time employees from the ranks of contingent workers—almost half its workforce in 2006, with 55% of them college students (Bolgar, 2007). Often called “temps”, or temporary workers, they are often devalued or stigmatized because of their “temporary” status (Boyce, Ryan, Imus, & Morgeson, 2007). This is unfortunate, as we will show later, because it undermines the “living laboratory” that such status provides.

The growth of contingent work arrangements is also a Europe-wide trend, accounting for 14.5% of the labor force in 2005, up from 12.6% in 2000. Unlike many of their US counterparts, however, most such workers in Europe still receive health care and retirement benefits. Because they are easier to hire and fire, they pose less financial risk to employers, and this is spurring companies to hire more of them. At the same time, companies are drawing from the ranks of contingent workers when they feel confident enough to take on additional “permanent” employees (Ewing, 2007).

Among multinational enterprises the number of contingent workers, ranging from those on short-term contracts to consultants, can represent as much as one-fifth of the workforce. Demand for their services is particularly acute in France, Italy, Germany, and Japan (“The world of work”, 2007).

A cross-sectional study of 174 contingent workers found that relationships with client organizations begin with largely transactional elements (that is, a focus on the economic exchange, with little emphasis on extended relationships between the parties) during the first six months of employment (Lee & Faller, 2005). The same study also found a dramatic increase in relational orientation

(that is, transactional elements plus perceptions that long-term, less-defined obligations exist, characterized by attributes such as commitment and trust—Rousseau & McLean Parks, 1993) during the 7- to 18-month period. That orientation was maintained until 30 months' tenure, after which contingent employees saw themselves as organizational citizens, and they began to form ongoing relationships with their organizations and to attribute a portion of their self-identity to this involvement. Lee and Faller (2005) suggested that if they are so inclined, client organizations should probably consider offering permanent contracts to contingent staff between 7 and 18 months after employment. Such time enables mutual understanding, careful observation of each contingent employee's performance *in situ*, and the growth of relationships.

### *Virtual-reality Technology*

In addition to internships and contingent work arrangements, we propose the use of virtual-reality technology (VRT) as a third type of predictor of *in situ* performance. VRT was proposed as a personnel selection tool by Aguinis, Henle, and Beaty (2001), but its use does not seem to be common yet (Anderson, 2003). VRT is a computer technology that enables users to immerse themselves in an alternate world; through the use of real-time computer graphics, users experience a computer-generated environment as if it is real and they are part of it. Aguinis et al. (2001) discussed VRT as a technique for the "future". However, the future is now. VRT creates a complex job environment in a realistic and highly controlled manner. As noted by Aguinis et al. (2001), "just a few years ago, this would have only been possible in science-fiction movies, but today virtual reality technology makes this feasible" (p. 70).

Technological advancements make VRT affordable and easier to use (Kwiatkowski, 2003), so these do not seem to be great impediments for its use at present. For example, most VRT equipment can be purchased on eBay: a three-dimensional controller virtual glove can be purchased for as low as \$59 and head-mounted displays are in the \$700 range (e.g., [www.cwonline.com](http://www.cwonline.com)). However, the potential of VRT is not being investigated by researchers interested in staffing issues. This is unfortunate, because VRT has great potential as a type of predictor that takes time and context into account and for assessing *in situ* performance. At the same time it is important to note that the cost of developing a high-fidelity VRT simulation may not be feasible for small organizations.

Consider applicants for truck-driver positions stepping into a VRT simulator of a truck to demonstrate their competence. Or imagine applicants for lab-technician positions entering a simulated laboratory to demonstrate their ability to handle various chemical substances. As a third example, consider exposing an applicant for an expatriate assignment in Brazil as a witness to a sexual-harassment situation (as defined by US law) (Pierce & Aguinis, 1997). VRT can be used over long periods of time and has the potential to create such

job-related environments without using real trucks, real chemicals, or real people. Thus, users can practice hazardous tasks or simulate rare—yet important in terms of their implications—occurrences in a realistic environment without compromising their safety and the safety of others.

As noted by Aguinis et al. (2001), the implementation of VRT can present some challenges. For example, VRT environments can lead to *sopite syndrome* (i.e., eyestrain, blurred vision, headache, balance disturbances, drowsiness [Pierce & Aguinis, 1997]). However, as noted by Cascio and Aguinis (2005), given the frantic pace of technological advances, we should expect that some of the present limitations will soon be overcome.

### Implications for Research and Practice

Obviously the three techniques we have just described do not address all staffing challenges, and there are many situations in which they simply will not work. For example, internships simply do not fit the situation when speed in hiring is critical. Also, a mid-career individual is not likely to be attracted to an unpaid internship. Under those circumstances tradeoffs are necessary, and if it is not possible to assess candidates relative to *in situ* performance, lower validities may be an unavoidable consequence. We do not believe there is a silver bullet that practitioners will be able to use in a fast and cheap way to make accurate predictions about performance. On the contrary, the longer the time that is invested in assessing an applicant's *in situ* performance, the better the prediction of his or her future performance.

It took several decades of staffing research until researchers developed what are considered to be effective predictors within the current model. In similar fashion, we expect that it will take time to develop innovative and effective predictors of *in situ* performance that take context and time into consideration. We discussed internships, contingent work arrangements, and virtual reality technology as illustrations of possible tools whose feasibility will have to be scrutinized. Nevertheless, our view of the staffing process has important implications both for research and practice. In terms of research, one overarching implication is that a change in direction in staffing research may produce research that may actually have an impact on practice. Currently, it seems that “we, as applied scientists, exist largely for the purpose of communicating knowledge to one another. One might shudder if this were also true of another applied science, medicine” (Latham, 2007, p. 1031). Evidence in support of this statement is that most universities measure faculty research impact by counting the number of publications in certain journals and the number of citations, but do not consider whether research results are actually implemented in organizations or have any impact on practice (Cascio & Aguinis, in press; McHenry, 2007). We hope that investigations of the following selective set of issues and questions may serve as starting points for a long-term research agenda that will produce research that has the



potential to create knowledge that will affect organizational practices in meaningful ways:

- What is the relative effectiveness of internships, contingent work arrangements, and VRT in predicting performance?
- What other types of predictors of performance can be developed following the three guiding principles about time, context, and the prediction of *in situ* performance?
- What are the ideal features of internships, contingent work arrangements, VRT, and other types of predictors regarding their efficient and practical implementation that would maximize prediction accuracy and minimize implementation cost?
- What factors might moderate the relationship between present and future *in situ* performance as predicted by internships, contingent work arrangements, VRT, and other tools?
- How can GMA, personality, and other predictors typically used in the current staffing model be integrated with the new types of predictors we are proposing?
- How can predictors developed following the current model complement those developed following our expanded view?
- Our expanded view of the staffing process blurs the lines across traditional sub-fields of HR study, particularly the line between staffing and performance management. As noted by Aguinis and Pierce (2008), some of these artificial barriers across sub-fields render research results less useful and relevant to practitioners because they are not consistent with how organizations operate. Thus, another implication of our article is that future research could frame the study of staffing as human capital acquisition and development, which is a broader view that is more consistent with the realities of twenty-first-century organizations.

Our proposed expanded view of the staffing process also has implications for practice. First, we hasten to mention that implementing our expanded view of the staffing process will take time and money, as is the case with any organizational initiative that eventually will have impact. The payoff, however, lies in the ability to capture, and therefore to predict, more of the broad domain in which performance actually takes place.

Perhaps the most critical implication for practice is that we are proposing fundamental changes in the way hiring decisions are made. We are advocating a change in the yardstick used to evaluate an applicant's suitability for a specific job. To do so, we believe that current *in situ* performance is the best predictor of future *in situ* performance—at least to the extent that contexts and cues are similar.

Another important implication for practice is that if an organization has a deficient performance-management system, it is unlikely that the organization

will be able to make sound hiring decisions (Aguinis, 2009; Cascio, 2006b). In other words, if an organization is not able to define and measure *in situ* performance well, it will not be able to predict it well either. This implication points to the importance of having human resources (HR) policies and practices that are of consistent high quality regardless of the HR function in question (e.g., performance management, training, staffing, compensation). Important organizational-level variables such as turnover and corporate financial performance are affected positively when organizations are able to create bundles of effective HR practices (Huselid, 1995).

Finally, from the perspective of the US legal system and the defensibility of staffing procedures, because the job-relatedness of the tools we are proposing is quite evident, they have several advantages. They are more likely to be acceptable to applicants (i.e., increased face validity), to be seen as fair, and to be defensible if challenged.

## Conclusion

Despite remarkable claims about the effectiveness and utility of the current staffing model (Le et al., 2007), there are several indicators that these claims may be exaggerated. Perhaps the clearest type of evidence is that, of all HR domains, the largest practitioner–academic gap is in the staffing domain (Rynes et al., 2002). Also, what researchers consider to be some of the most important scientific contributions in staffing are virtually ignored by practitioners (Rynes, Giluk, & Brown, 2007). In other words, in most organizations, practitioners do not follow research-based recommendations derived from the current staffing model (Ployhart, 2006). This is most likely because, although validity coefficients in the .20s, .30s, or even .50s (when corrected for statistical artifacts) may seem large to researchers, they may not be sufficiently useful for practitioners who need to make staffing decisions. We advocate a sharply different approach from that of previous reviews of the staffing literature, beginning with an expanded view of the staffing process. Instead of chastising practitioners for not implementing academic-based research, we advocate an expansion in how academic-based researchers conceptualize performance and the predictors of performance. Our goal is to offer a novel perspective and research agenda that will result in findings that are more useful, applicable, relevant, and effective for practitioners to use in organizational settings (cf. Lawler, 2007). We believe that the responsibility for narrowing the much-discussed academic–practitioner gap lies mainly with academics. It is our job to produce research that is both rigorous and relevant so as to not be relegated to the status of a “cottage industry” (Cascio & Aguinis, in press).

## Acknowledgements

This research was conducted, in part, while Herman Aguinis was on sabbatical leave from the University of Colorado Denver and holding visiting

appointments at the University of Salamanca (Spain) and University of Puerto Rico. We thank Richard Arvey, Art Brief, Charles A. Pierce, Robert Ployhart, and Jim Walsh for comments on previous drafts.

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