THE PERFECT HIRE

TECHNOLOGY AND PSYCHOLOGY ARE RESHAPING THE SEARCH FOR THE BEST EMPLOYEES

By Tomas Chamorro-Premuzic and Christopher Steinmetz

In 2012 Shane Barker set out to land a job managing social media for the San Francisco 49ers. He did not have any connections inside the company; he did not even submit his résumé. An avid user of social media since 2005, he used the social-networking tools at his fingertips to try to get the 49ers' attention.

First, Barker visited a Dallas Cowboys training camp and recorded a video of himself rooting for the 49ers in enemy territory, which he then posted to his YouTube channel. In August he published a blog on his personal Web site entitled "San Francisco 49ers Social Media: Why Hire Shane Barker?" in which he included the video and data demonstrating his online influence. He then shared the link to his blog on Twitter, Google+ and Facebook.

Barker soon had a job offer in hand—not from the football team but from a start-up in Uzbekistan that had noticed his efforts. Together he and the Central Asian entrepreneurs launched Modera, a fashion-themed photograph-judging Web site. Within months he had moved into a house in Sacramento with some of his new colleagues to focus on the enterprise full-time. Though a far cry from working for his favorite football team, Barker's change of fortune exemplifies some of the trends emerging in recruiting today.

Companies have long sought the best methods for identifying the next superstar employee. Now social media tools, online games and data-mining techniques that scour the Web for hints to an applicant's personality are joining the traditional

ILLUSTRATIONS BY GAVIN POTENZA

Shane Barker used social media, including his Twitter account, to land his latest job.

résumé, cover letter and interview. These innovations offer new opportunities for recruiters and job hunters alike, as Barker's story illustrates. In a 2012 survey by Jobvite, a recruiting software company, 93 percent of the 1,000 human resources professionals surveyed reported that they relied on LinkedIn to gather information about candidates. Two thirds of them used Facebook, and slightly more than half reported consulting applicants' Twitter accounts.

New ways to discover and screen candidates online have led psychologists to wonder: Are these technologies helping or hurting companies and job hunters? Intuition rather than science is driving the social media trend, and from what psychologists have studied so far, the outcomes are mixed. Before we can evaluate whether these new technologies are improving hiring, however, we need to consider the gaps in our traditional methods.

What Employers Want

The goal of a recruiter—whether a human resources administrator or a line manager—is to find the person who best

fits the requirements and culture of a given job. Typically a recruiter crafts an advertisement for the position, posts it to the company Web site and some job boards, collects applications—résumés, cover letters and references—then selects a few candidates for interviews.

This process is rather flawed. It ignores some of the core findings of industrial and organizational psychology on how to screen candidates. Take IQ, for example. IQ has been shown to be the most consistent predictor of performance across a variety of jobs because it indicates a candidate's ability to learn and thus reflects how quickly a person can be trained. Yet it remains an unpopular selection tool [see box on page 47]. Administering IQ tests may be too onerous for most companies, but scores on standardized exams such as the SAT and the GRE are highly correlated with IQ scores and can be regarded as a proxy for learning potential.

Another powerful predictor of career success, the personality test, has gained a somewhat stronger foothold in employee selection. Hundreds of independent research studies have demonstrated that these tests are better indicators of future career success than letters of recommendation, interviews and educational credentials.

The personality tests that have been shown to forecast performance are based on the "five-factor model," a well-supported and thoroughly researched framework for understanding how our personalities differ. According to it, we can be analyzed along five continuous, nonoverlapping dimensions: openness, conscientiousness, extroversion, agreeableness and emotional stability. Conscientiousness and, to a lesser extent, high emotional stability are the most consistent predictors of success across jobs and criteria. (Although the Myers-Briggs Type Indicator is the best-known personality test, very few peer-reviewed studies have demonstrated that its results accurately predict a job candidate's performance.)

Yet neither of these psychometric tests fits seamlessly into the recruiting process. One reason is that evaluators tend to focus on the everyday behaviors of candidates because this information is easily accessible in an in-person interview. Another explanation, derived from numerous studies across several cultures, is that applicants tend to view such tests as less fair than face-to-face interviews and work samples. Perceptions of fairness matter; they can affect applicants' self-esteem, along with their motivation to continue pursuing employment and to ultimately accept the job.

Help from Social Networks

Recent findings suggest that aspects of personality can be gleaned from our digital footprints. In one early study by psychologists Simine Vazire and Samuel D. Gosling of the University of Texas at Austin, for example, people who perused 89 personal Web sites were equally good at detecting the conscientiousness and openness of the site owner as of a long-time acquaintance.

Blogs, too, can offer insight. A 2010 study by psychologist Tal Yarkoni of the University of Colorado at Boulder analyzed

PERSONALITY TESTS ARE BETTER PREDICTORS OF FUTURE CAREER SUCCESS THAN LETTERS OF RECOMMENDATION, INTERVIEWS AND EDUCATIONAL CREDENTIALS.
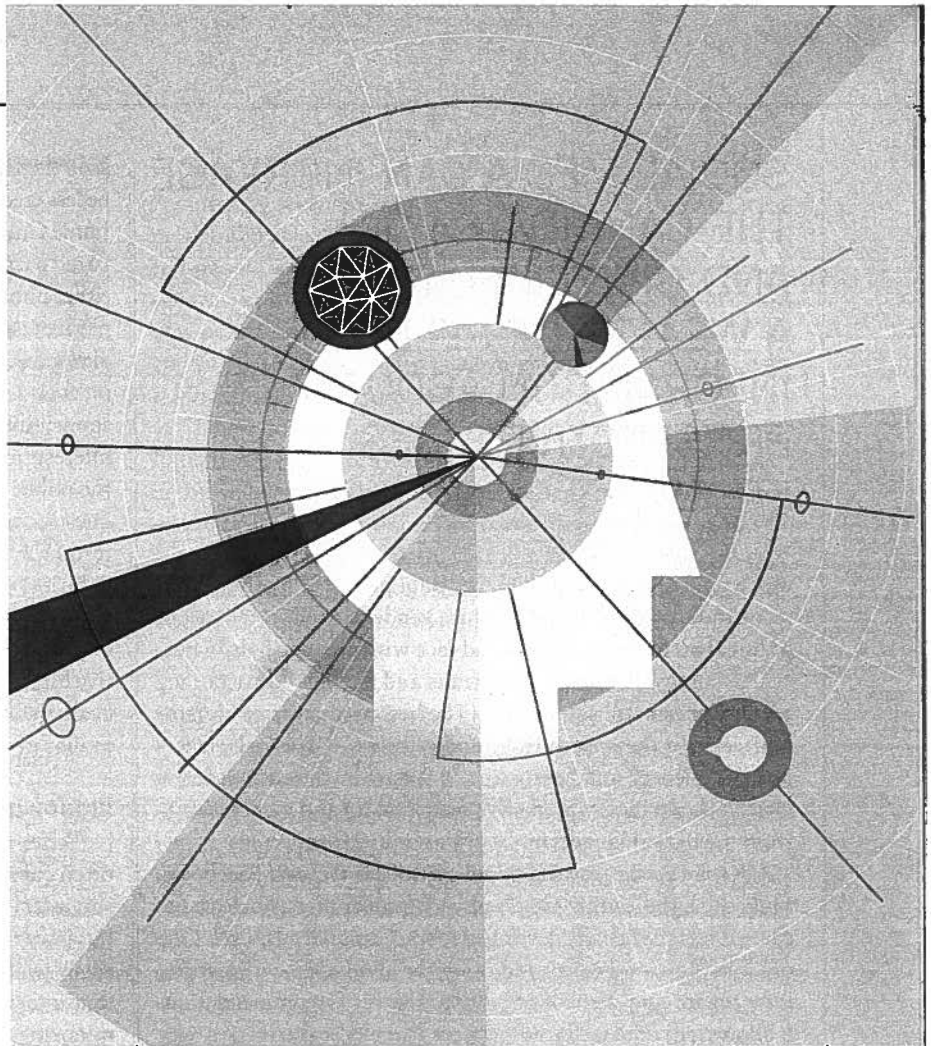
the words used in 695 blogs and their owners' responses on a personality test. He found that neurotic bloggers commonly used words such as "awful" and "lazy," whereas agreeable writers were more likely to describe something as "wonderful" and conscientious word-slingers often used "completed."

These findings support the intuitions of most recruiters who Google a candidate's name and check for Facebook, Twitter and LinkedIn accounts in search of telling revelations. A 2011 study by psychologists Ralf Caers and Vanessa Castelyns of University College Brussels found that of 353 HR professionals polled, 43 percent admitted to drawing conclusions about applicants' personalities based on their Facebook profiles, such as extroversion and maturity. Herein lies some risk for recruiters: as they casually peruse an applicant's data trail, they may become biased at an earlier stage in the process by traits such as attractiveness, facial maturity, a handicap or obesity than if they had observed these details for the first time only in person. Recruiters may unconsciously decide against inviting someone in for an interview based on features that have nothing to do with job performance.

More useful metrics might emerge from software capable of categorizing Web data into personality dimensions. This field is in its infancy, but two examples are TweetPsych and YouAreWhatYouLike, both simple, free online apps. TweetPsych scores the emotional and intellectual content of a person's Twitter activity on a range of topics—such as learning, money, emotions and anxiety—as compared with others in its database. Consider a scenario in which a recruiter has shortlisted two candidates with comparable qualifications, but one of them has a much higher "negativity" rating than the other based on the tenor of his tweets. The recruiter may well be inclined to select the more upbeat person for the job.

YouAreWhatYouLike compiles personality profiles in line with the five-factor model based solely on what a person purports to "Like" on Facebook. The Like button is a way for Facebook users to express positive feeling toward online content, such as the profile page of an artist, a friend's photograph or status update, or even a category such as chihuahuas. A visit by a Facebook user to YouAreWhatYouLike.com can generate labels along several dimensions, such as "liberal and artistic," "calm and relaxed," and "well organized."

The research group behind this software, led by psychologist Michal Kosinski of the University of Cambridge, published a deeper analysis earlier this year of Facebook information from 58,000 volunteers. Participants granted the researchers access to their Likes; they also shared detailed demographic data and the results of several psychometric tests. By analyzing the associations between almost 56,000 "Liked" objects and the participants, they built models that could predict a person's traits and preferences, including IQ. They evaluated the accuracy of
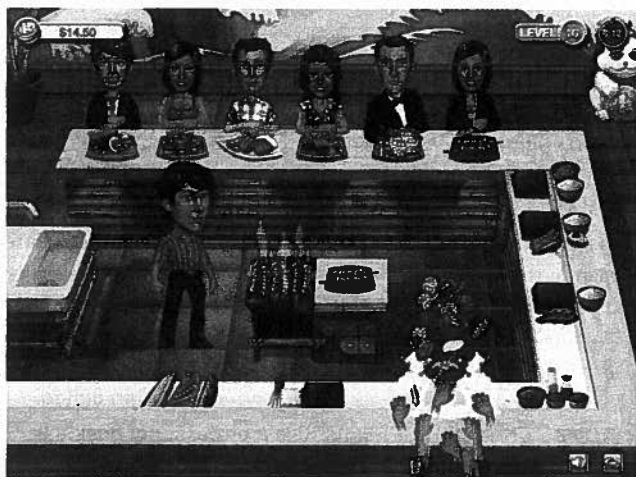
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SOCIAL MEDIA CAN INCREASE THE CANDIDATE POOL AND GIVE EMPLOYERS A WEALTH OF RELEVANT INFORMATION ABOUT PROSPECTIVE HIRES.

those predictions using the other data provided by the volunteers and found they could deduce gender, sexual orientation, political preference, religion and race with greater than 75 percent accuracy. For personality traits and intelligence, accuracy was lower but still significant. (The best predictors of high intelligence, by the way, were "thunderstorms," "*The Colbert Report*," "science" and "curly fries.") We are on the cusp of deriving those two highly predictive metrics—IQ and personality—from the digital breadcrumbs of our online wanderings.

In spite of the growing popularity of Twitter and Facebook, LinkedIn is the leading social network for recruiters, not least because it was specifically developed for professional purposes. One of LinkedIn's most recent additions, the "Endorsement" feature, is the digital equivalent of a traditional letter of recommendation. It allows individuals in your network to endorse you on a variety of skills. The obvious drawback is that most people end up reciprocating favorable references. Further, the site does not incorporate negative or even neutral evaluations. Still, this feature provides a quick, easily accessible overview of someone's strengths according to others. As Abraham Lincoln is said to have wisely noted, you cannot fool all of the people all of the time.

These public votes of confidence are valuable because, just as in the ink-and-paper world, LinkedIn self-evaluations tend to be less credible than peer reports. A 2012 study by psychologists Jamie Guillory and Jeffrey Hancock of Cornell University compared participants' reactions to traditional, offline résumés with either public or private LinkedIn résumés. They found that people are just as likely to lie on a LinkedIn profile as on a traditional résumé, but in different ways. Participants were more honest on their LinkedIn profile about prior work experience and responsibilities. Yet they were more likely to be deceptive about interests and hobbies. The researchers attributed this finding to the public nature of LinkedIn—your friends and family would question a false qualification on any résumé, but a traditional résumé might never reach their eyes. Interests and hobbies tend to be less widely known, so they are less likely to be disputed.

In short, social media can increase the candidate pool and give employers a wealth of relevant information about prospective hires. The challenge is to be aware of our own biases as we evaluate information from these sources, just as we are prone to bias in other aspects of daily life.

Videos and Games

After a résumé has passed muster, a successful candidate often comes in to meet with a potential employer for an in-person interview. Typically the bedrock of any talent search, interviews tend to be conducted in a free-form manner that can easily feed false perceptions. Studies have shown, for example, that interviews are often systematically biased against ethnic minorities, women and elderly individuals. Even an applicant's perfume can introduce bias.

A better, more predictive approach is to conduct structured interviews, in which every applicant answers the same list of questions. Using this method, different evaluators are more likely to reach similar judgments on a candidate than when the interviews are more conversational, research has found. Yet free-form interviews predominate, in part because of ignorance among hirers and in part because managers view the format as impinging on their autonomy.

A new batch of companies seeks to improve the selection process through structured online interviews that also save managers' time, thus winning them over. The recruiting companies EnRecruit and Spark Hire offer two such services. Corporations that sign up with them can invite candidates to record responses to a few questions using a webcam. For employers, the services standardize interviews and free up time—the length of the videos can be limited to a couple of minutes, and the people on the hiring end can watch the recordings at their leisure, without having to coordinate schedules.

Short, virtual interviews can help winnow down a larger candidate pool into a smaller group of potential employees without sacrificing the personal element. They also offer a more reliable way of comparing candidates. As the services gain popularity, their success will also depend on the skill of the recruiters in asking the right questions and properly interpreting responses.

Another major area of innovation is "gamification," the use

Wasabi Waiter, a game offered by Palo Alto, Calif.-based Knack, generates behavioral profiles for players with the intent of helping them find jobs that match their capabilities.

Are Our Selection Methods Valid?

Yes and no—it depends on who is asking. Predictive validity refers to whether scientific data support the use of the tool in hiring. Face validity captures whether practitioners consider the method valid. And social validity reflects whether applicants embrace the approach.

	Predictive Validity	Face Validity	Social Validity
Interview	Low	High	High
References	Low	Medium	Medium
IQ	High	Low	Medium
Personality Test	High	Low	Low

of video games in the hunt for talent. The advantage over traditional techniques, such as personality tests, is a more engaging user experience. Candidates might even have fun with a game, and the games themselves could go viral. By applying behavioral theories to a player's actions during the game, the software can generate a complex personality profile for that user.

In one game developed by a company called Knack, a player assumes the role of a waiter at a Japanese restaurant. This virtual waiter must juggle preparing sushi, serving dishes, reading and responding to customers' needs, and washing up, among other tasks. Every action is logged and translated into a behavioral profile with traits such as extroversion, creativity or impulsivity, among many others. Knack bases these profiles on psychological research from its team of behavioral scientists who have mapped responses within the game, such as the ability to keep track of multiple orders, to job skills—in this case, the ability to multitask.

The waiter game is a type of situational judgment test—another metric, in addition to IQ and personality tests, that researchers have found can predict performance on the job. A more familiar way that an interviewer might assess situational judgment is by asking, for example, a candidate for a teaching job how they would handle a student who is not paying attention. Such queries are popular because they can be molded to the specific job opening or corporate culture.

Two other examples of games are Insanely Driven, used by Reckitt Benckiser, a global consumer-goods firm, and Reveal, from the cosmetics company L'Oréal. Insanely Driven helps employers assess candidates' "fit" with the company's culture. Players of Insanely Driven must handle numerous tough situations as they race to an important meeting. The test is based on four measures of personality—adjustment, ambition, sensitiv-

ity and prudence—taken from the Hogan Personality Inventory, a widely accepted assessment that is based on the five-factor model. Reveal, available on L'Oréal's Web site, is used to identify people who might be suited to open positions throughout the organization. A player oversees the simulated launch of a new product as challenges arise from different divisions of the company. Decisions in the game might capture a player's risk-taking proclivity, strong analytical skills, and so forth.

These companies are betting that desirable young job hunters are more likely to pursue a job that asks them to play an online game than a job that requires hours of traditional evaluation. Given the sheer number of services being developed, more time and research are needed before these new approaches can be fully vetted. We will also need to hone our knowledge of how particular behaviors relate to performance across numerous jobs.

Bigger and Bigger Data

The latest breed of digital-recruiting tools uses algorithms that attempt to synthesize all existing information about a candidate. For example, Klout and Topsy are two Web-crawling services that quantify a candidate's online influence level, defined as the degree to which their online activity is examined, shared or discussed by others. Beyond the inevitable scouring of every social media platform, companies seeking talent will also want to comb through news articles, blog posts, shopping histories, e-mails, comment sections, forums, and anything else that becomes available online.

George Orwell may turn in his grave, but merging today's fragmented services could conceivably construct the most accurate psychological profiles yet. Companies could find their dream candidates before they even submit an application and target only the people who possess the right skills and style to perform well on the job—and who will enjoy it, too. These new tools will not only refine our talent-identification methods, they will also help more people find the perfect job for them. **M**

(Further Reading)

◆ Situational Judgment Tests, Response Instructions, and Validity: A Meta-analysis. Michael A. McDaniel et al. in *Personnel Psychology*, Vol. 60, No. 1, pages 63–91; Spring 2007.
◆ Reasons for Being Selective When Choosing Personnel Selection Procedures. Cornelius J. König et al. in *International Journal of Selection and Assessment*, Vol. 18, No. 1, pages 17–27; March 2010.
◆ Personality in 100,000 Words: A Large-Scale Analysis of Personality and Word Use among Bloggers. Tal Yarkoni in *Journal of Research in Personality*, Vol. 44, No. 3, pages 363–373; June 2010.
◆ Private Traits and Attributes Are Predictable from Digital Records of Human Behavior. Michal Kosinski, David Stillwell and Thore Graepel in *Proceedings of the National Academy of Sciences USA*, Vol. 110, No. 15, pages 5802–5805; April 9, 2013.

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