

# Evolving Pre-Employment Assessment: How to Turn “Testing” into “Experience”

Why you should include simulations in your company’s recruitment branding and pre-employment assessment strategy

By Charles A. Handler, Ph.D., Founder, Rocket-Hire

## Introduction

Job applicant assessment tools have been around a long time. They add significant value to the hiring process, because they provide a reliable way to collect data, make informed decisions and hire the most suitable applicants. A wide range of assessments are available, with the bulk traditionally including tests and screening measures. In spite of the fact that they’ve always added value, the impact of tests and screening until recently has been limited by several “value blockages.” Now technology has made it possible to remove these blockages. The resulting increase in efficiency and effectiveness of assessments has allowed us to enter a new phase in the evolution of pre-employment testing.

The hallmark of this continuing technology-assisted trend is a shift from pre-employment assessment as a series of monolithic tests, to pre-employment assessment as a meaningful and measurable experience that creates two-way dialogue between employers and applicants. This dialogue adds significantly more value to the hiring effort than individual tests, because it provides employers with meaningful information about the applicant, while providing the applicant with insight into the company and how well he or she might fit in.

## Why Use Pre-employment Tests?

The use of tests in a pre-hire dialogue between employer and employee is certainly nothing new. Since the 1930s, organizations of all types have included a wide variety of tests as an integral part of the hiring processes. The practice originated in the world of clinical psychology, where testing was used as a predictive tool. Testing

gained significant momentum during World War II, when it was used successfully to select individuals for dangerous top-secret missions for the OSS.

In the 65 years following World War II, the practice of pre-employment testing has grown to include measurement of important work-related constructs, such as intelligence, personality, attitudes, work preferences and judgment. The organizational psychologists who created and used these tests have compiled a good deal of evidence to support the fact that, when used correctly, these tests are quite effective in helping companies predict which applicants will be the most successful.

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Research and practice have made it clear that employment testing offers the following benefits:

- Reliable, accurate data about key applicant characteristics that are important for effective job performance
- Data that helps staffing personnel make effective, informed decisions about applicants
- Legal defensibility for employee selection programs through standardization and validation
- Tracking of value tests back to the business using empirical evaluation with metrics important to the bottom line

Even though the practice of testing has been successful in many ways, traditional employment tests still suffer from several actual and perceived drawbacks that limit their acceptance among both employers and job applicants. These drawbacks include the following:

- Traditional text content is not flexible. Tests often measure unimportant factors and miss what's truly important. This reduces accuracy, increases complexity and encourages waste.
- Tests are not fun for applicants. Questions often do not appear to be job related, or enjoyable. When this happens, testing can have a negative impact on applicant perceptions of the employer, which makes tests a poor recruitment tool.
- Tests are a one-way street. They do not provide applicants with feedback or value for their time.
- Some tests under-predict for members of protected classes (a phenomenon known as "adverse impact").
- Tests are static, not dynamic.
- Tests often do not provide data that can be used across the entire employee lifecycle.
- Traditional testing requires significant administrative resources.

## Technology Changes the Pre-employment Assessment Game

Until the 1990s, the administrative hassles of a testing program were a significant detractor to its adoption and a limitation on its ability to add value. Back then, testing meant faxing answer sheets, hand scoring and creating spreadsheets for manual reporting. Furthermore, in the past, test content was inflexible, and changes to testing programs required significant investments in analysis and reconfiguration. Finally, tests as they were designed then did not create a dynamic experience with any perceived value to applicants. These three major issues increased costs, reduced accuracy and limited candidate acceptance. They became "value blockages" that have and continue to limit the value of testing.

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The good news is that when it comes to testing, as with all aspects of our lives, technology has provided a method of change in employee selection testing. Internet technologies in particular have facilitated a series of evolutionary shifts that are removing the value blockages. The technological evolution of testing has been defined by three overlapping phases.

### *Phase 1: Removal of administrative blockages*

The shift in testing began with the ability to easily serve tests, score them and report results. Technology removed the need for dedicated resources to run time-consuming, expensive, inaccurate manual processes. This helped testing gain significant traction among businesses worldwide. Despite these advantages, testing still

was earmarked by a lack of flexibility, reliance on outdated content and inability to prove a business impact.

### *Phase 2: Marriage of testing platform with business intelligence*

A second phase of technological evolution involved the ability to collect unprecedented amounts of data about tests and its relationship to specific outcomes. With more data, we can break tests into smaller components or "scales," and the impact of each scale on key business outcomes has become clearer. This evolutionary trend led to the creation of shorter more powerful tests that make things easier on both administrators and applicants. At the present time, testing is doing more with less, because the significant amount of data collected has allowed us to uncover the "truth" about the relationship between human traits and job performance. It also has allowed us to streamline the process of configuring and delivering related measurement tools.

### *Phase 3: Movement from test to experience: the rise of simulations*

We are now in a new phase of evolution that will take us beyond the concept of a "test" as the foundation of pre-employment assessment, toward a model in which key applicant constructs will be evaluated via richer two-way experiences. These experiences are made possible by leveraging technology. Measurement of key constructs can be embedded into interactive experiences or simulations, collecting data from applicants while at the same time sharing information with them.

## Simulations: The New Source of Value in the Hiring Process

Employment simulation is a tool that provides a fertile foundation for the present phase of assessment evolution. However, although employment-related simulations have been in use for some time, their use has been limited for one reason: it has not been possible to replicate a wide range of work environments at a reasonable cost.

Technology provided new life for employment simulations. The functionality provided by modern gaming platforms, virtual worlds and highly interactive Web 2.0 applications has positioned us at the edge of a new paradigm in employee selection. These tools are providing an opportunity to create simulated experiences that have a high degree of fidelity with real work situations.

To understand the true impact of technology on pre-employment assessment, we must take a closer look at employment simulation and its benefits. The benefits generally fall into two distinct categories: scientific integrity and engagement.

## Scientific Benefits of New Simulation Technology

Employers have used work simulations almost as long as other types of employment testing. For example, companies have used work samples successfully within manufacturing environments for decades. In these exercises, applicants perform tasks that would be



required on the job, should they get hired. Technology takes this one step further, and the benefits of simulations are continuing to grow as a result of the technology-related scientific, measurement-based advantages they provide.

#### ***Accuracy increases as fidelity with job activities increases***

Mechanical exercises in which applicants are asked to sort parts, lift objects and assemble things from a box of parts are perfect for examining applicant traits, such as fault finding, strength and dexterity. These work samples, some of the earliest tools used in employment selection, demonstrate high levels of predictive ability due to what is known as “point-to-point correspondence,” a term describing the fact that the work sample is a direct replication of tasks required on the job.

Technology-based simulations also employ the concept of point-to-point correspondence. From a measurement standpoint, this one of the reasons they provide a high degree of predictive accuracy. In addition, however, simulations are less demanding when it comes to reading level and reading comprehension, which has been shown to reduce levels of adverse impact. The combination of predictive accuracy and reduced adverse impact makes technology-based simulations an ideal selection tool—a measurement method both effective and legally sound.

#### ***Simulations can replicate today's complex jobs***

The concept of point-to-point correspondence remains an important theoretical foundation for the value provided by simulations. However, the world of work has changed dramatically since the heyday of the mechanical work sample. Today's work environments are infinitely more complex than those of the past. Replicating them requires more sophisticated technology than any readily available in the past. This technology gap has led to a plateau lasting decades in the world of simulations.

Around the turn of the century, advances in technology and selection science provided new life for simulations' measurement-related value proposition. Technological advances have allowed us to create “virtual worlds,” and to deepen levels of interconnectivity between individuals. The value proposition for simulations has been expanded to include an ability to evaluate the applicant's entire set of skills, traits and tendencies. We can now determine in what ways an applicant is a “whole greater than the sum of its parts.” This essentially means we can now place candidates into complex situations where we can measure their use of combinations of traits to achieve realistic outcomes.

The constructs traditionally measured using individual tests or low fidelity work samples still are present in the modern measurement model, but the number of traits measured and the manner in which they interrelate to indicate effective job performance can be modeled and measured in ways never before possible. The ability

to effectively and efficiently support complex, science-based measurement models allows significant increases in the predictive accuracy (i.e., validity) of simulations. At the same time, high levels of realism open the door for important experience-related benefits that add another dimension to the value of simulations as predictive tools.

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#### **Engagement Benefits**

One of the greatest added values of modern, technology-based simulations is the experiential component they provide. In fact, applying for jobs and completing related assessments is a completely different experience than it used to be, because we can engage in dialogue with candidates and measure key constructs within a realistic replica of the work environment. Applicants actually find themselves engaged in an activity and dialogue they see as both informative and entertaining, which leads them to think positively about the organization. This creates a new dimension for simulations: support of employment branding efforts. While an employee is demonstrating the likelihood that he or she will make a good employee, the organization is able to use the experience to create brand impressions and engage applicants (and potential applicants). The branding-related aspect of simulations is the foundation for a variety of benefits that go beyond pure measurement of work-related constructs, and thus expand the value proposition in the following ways:

#### ***Realistic job preview (RJP)***

The realism provided by simulations offers candidates the ability to learn about the reality of the actual work environment, providing a realistic preview of both positive and challenging aspects of the job. RJP's have proven useful in helping candidates determine what a job really entails and their level of interest in it. This allows them to self-select out of the hiring process if a job does not seem right to them. This self-selection has shown a strong correlation to tenure.

#### ***Branding power***

Using interactivity and simulations as part of the recruitment and application process reflects well on an organization and has a strong impact on employment branding. At the present time, few companies are using such simulations, which strengthens the image of the companies that are. The richness provided by an experience vs. an application blank means much more thorough and complex information for the user. This kind of application process can be an important way to send powerful messages to candidates, at the same time collecting essential information from them.



### *Engaging candidates*

The addition of simulations can shift the experience of applying for a job from one of drudgery, requiring applicants to fill in sometimes hundreds of radio buttons on computer screens, to one that has a high degree of entertainment value. At some point, we can expect simulations to leverage “serious gaming” (i.e., a game designed for a primary purpose other than pure entertainment) to provide a very engaging, and potentially ongoing, experience.

### *Two-way dialogue*

One of the biggest issues with the current assessment paradigm is that assessment seldom provides feedback of any sort to the applicant. Applicants are asked to give their time and effort, sharing personal information, but are not provided with anything of value in return. The use of gaming and simulation technology to provide applicants with a rich experience is an excellent way to add entertainment value in return for their efforts. It also can provide applicants with feedback in real time as they navigate the simulation or game.

### *Lifecycle-friendly*

While primarily used as part of the application process, games and interactive simulations are the starting point for a long-term dialogue. Characteristics measured during the hiring process also are relevant for job performance. Thus, the same simulation-based content has relevance for training and development purposes. The potential for simulations to span the employee lifecycle provides companies with an advantage, because they now have a good way to collect and study patterns in the data to understand employees.

## **The Current State of Simulations**

Technology-based simulations allow a realistic, rich, engaging dialogue between an employer and applicants or employees. Current technology offers the ability to support some exciting job-related simulations. Here are common applications for simulation technology:

### *Contact centers*

Some simulations provide highly-realistic replicas of contact center work environments, and can provide a high degree of predictive accuracy in regard to applicant suitability.

### *Managerial in-box exercises*

The white collar work environment has become highly reliant on technologies, such as email, voice mail, spreadsheets and electronic presentations. An increasing number of highly-realistic simulations allow candidates to participate in “a day in the life” exercises, during which they must manage employees and information, and make important decisions.

### *Situational judgment exercises*

Situational judgment long has been an excellent way to collect information about the way an individual handles important work-related scenarios. Technology has provided the tools needed to move these types of exercises from a flat piece of paper or non-interactive video, to more realistic experiences. These experiences can be strung together to create even more in-depth opportunities to see how an applicant will perform when on the job.

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### *Manufacturing*

Much of the manufacturing world is now highly automated, and today’s brawn lies more in the mental realm than the physical. Organizations can replicate automated processes via simulations to allow applicants to perform technology-based tasks almost identical to those found on the job.

### *Branded games*

An increasing number of companies are benefitting from the use of gaming in recruitment advertising and the early application process. Recruitment and application games include a high degree of interactivity, and often require individuals to perform job-related tasks, solve job-related puzzles, and engage in dialogue with recruiters or even other applicants.

### *Interactive online applications*

Many organizations want to differentiate themselves from their competition by offering a rich and more meaningful dialogue with applicants. This comes in the form of branded employment websites, which provide the ability to learn interactively about corporate culture and investigate an applicant’s match with that culture in an engaging way. These experiences leverage a number of the advantages of simulation; they allow brand communication while collecting important predictive information about applicant suitability.

## **Limitations**

While simulations offer tremendous value, several factors have limited their uptake and held them to their present stage of evolution. These limitations represent a new set of value blockages. Removal of the blockages will depend on the continued evolution of technology. These current limitations include:



### *High cost*

At the present time, some simulations are available right out of the box, but this is not the norm. The best and most effective simulations require many resources to “localize” them, so they have a high degree of fidelity to a specific situation. This includes the production of scripts and an ability to either generate or film elements that create a high degree of fidelity with the work environment itself. On top of this, simulations must have mechanisms for delivery, data collection and scoring. Those who wish to create simulations with high fidelity to the actual work environment have few off-the-shelf options.

### *Long development cycle time*

Highly realistic simulations require a great deal of front end production work to capture the large variety of information required.

### *Programming and hardware*

Despite the wonder of our present technology, there still are many missing pieces when it comes to creating inexpensive, user-friendly simulations with both a high degree of realism and sound scientific measurement. As selection scientists, we must watch carefully and wait until new technologies become available, and then figure out how to integrate them.

### *Slow adoption rate*

All of the above factors, plus the fact that many organizations still struggle to understand the value offered by regular simulation, have meant a relatively slow adoption rate for assessments of any sort.

The good news is, as with other areas of assessment, we can expect that technological evolution will remove these value blockages, making simulations more accessible to organizations of all types.

## **The Future of Simulation Technology**

The future is very bright when it comes to simulation technology because, as in the past, we can expect overall technological advances to provide us with the means to evolve simulations. Here are some of the currently evolving technological advances that will remove further value blockages associated with simulations, making them both more realistic and more accessible:

### *Authoring tools*

At the present time, most simulations are relatively generic, because generic simulations allow organizations to use one set of tools in a variety of situations, which helps reduce costs and ramp up timeframes. Authoring tools are software that allows creation of a final application merely by linking together objects in a program, such as a paragraph of text, an illustration or a song. By defining the objects’ relationships to each other, and by sequencing them in an appropriate order, authors (those who use authoring tools) can produce coherent experiences without actually being required

to engage in sophisticated programming. When it comes to simulations, authoring tools provide the ability to quickly create customized experiences, reducing the time and expense required to gain high levels of fidelity. Authoring tools offer the most available way to remove the biggest value blockages currently associated with simulations: their high cost and long development cycles. These tools will provide the most value in the short run.

### *Platform integration*

One of the hallmarks of our current state of technological evolution is an increase in integrations across platforms of all types. APIs and the development of applications have begun to provide increased ability to easily leverage the benefits of a specific piece of software to help develop more complex solutions.

### *Advances in gaming technology*

Games, both serious and recreational, continue to lead the way when it comes to technological innovations. Highly flexible virtual worlds provide an open “sandbox” where reality can be replicated. They already have begun to change the manner in which training programs are delivered and evaluated. We expect the continued development of, and interest in, gaming technology will provide fertile ground for development of recruitment and assessment simulations.

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### *Web 2.0 (or higher?) technologies*

The web has begun a new phase of evolution in which levels of interconnectivity and interaction between individuals has been enhanced greatly. This interconnectivity allows richer, more rapid dialogues between individuals. It also provides data that can be integrated with other personal information to provide highly-tailored feedback and experiences, through which the characteristics or preferences of an individual can be evaluated, shared and aggregated. This functionality has tremendous possibilities for recruitment and assessment.

### *Artificial intelligence and predictive modeling*

Technology has increased our ability to glean meaning from large amounts of data and make predictions based on this information. This is a foundation of the present state of technological evolution. We can expect to see ever-increasing levels of artificial intelligence (AI) that will likely be applied to simulation technologies.

Technology will continue to evolve and remove the latest value blockages, allowing us to more easily replicate whole worlds and environments. These advances will be available to society in a variety of forms. Applications for recruitment and hiring will be a logical extension of the new tools we adopt.

## Action

While we can expect some mind-blowing technological evolution in the near future, it is important to be practical. Inexpensive hyper-realistic, interactive simulations for recruitment and hiring are still out of reach, because we lack the technology to support them. This does not mean organizations should be sitting on the sidelines waiting. Those who wish to take advantage of the many benefits provided by simulations have a large number of options they can employ right now. If your organization would like to adopt innovative best-practice-based simulations available now, here are suggestions:

### *Identify business needs*

Choose an area that offers substantial value to the business. Examine your organization's strategic drivers to see if they are compatible with simulations. For instance, is innovation important to you, and do you wish to hire those who have a passion for it? Do you wish to more fully integrate highly-technical training and development with your hiring process to ensure you are hiring individuals who will be effective learners and doers? Do you wish to find new ways to increase engagement and differentiate yourself in the ultra-competitive world of campus recruitment? These are just a few strategic business drivers you can support with simulation tools.

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### *Don't be afraid to innovate*

We are living in a very fertile time for innovation. Fortune favors the bold. Looking to science and technology to provide a competitive advantage is hardly a new idea these days. Even if you are not prepared to take the plunge at the present time, it pays to keep up with the latest trends and tools to identify those that could have value for you.

### *Start small*

There is no need to swallow the ocean when it comes to innovation. Your organization can gain experience through a small pilot study of the impact of simulations on a critical business outcome. This approach can provide a tremendous amount of value to the organization in both the short and long term.

### *Be sure to include sound selection science*

While simulations are more interesting than tests, they still require a sound foundation in measurement science. Remember, their value comes through the ability to apply the same psychological measurement paradigm in a more sophisticated and flexible manner. So, don't adopt a simulation or branding exercise without ensuring it offers real measurement value.

### *Collect data and evaluate it*

As with all predictors of future performance, it is essential to collect data and use it to evaluate the effectiveness of simulations. Measurement is the only way to fully understand the ROI associated with a simulation.

## Conclusion

We are living and working in an exciting age, where technology is deeply impacting many aspects of our society. Employee selection science is no exception. Technology has removed significant value blockages associated with recruitment and staffing, which has led to increases in efficiency and effectiveness that add unprecedented levels of value to the hiring process.

The latest frontier affecting employee selection is the use of technology-based simulations to provide richer, more meaningful experiences for job seekers and job applicants. These experiences go far beyond the traditional tests, with static content that collects information via a one-way dialogue. Technology is taking us to a new level of interactive experience, in which applicants participate in a two-way dialogue.

The value provided by these experiences is so powerful, it makes the whole selection effort greater than the sum of its parts. These deeper pre-employment assessment experiences provide unprecedented levels of complex measurement, while delivering a strong positive message to applicants about the organization.

Organizations that use these technology-based simulation tools to assist in the achievement of strategic corporate goals will find value both in the present and in the future, with an ability to leverage technology to provide long-term differentiation and success. ■

[www.kenexa.com](http://www.kenexa.com)  
866.391.9557

## About the Author

**Charles Handler, Ph.D.**, is the president and founder of Rocket-Hire. Throughout his career, he has specialized in developing effective, legally defensible employee selection systems. He has taken what he learned while developing recruitment and selection solutions for a wide variety of organizations and combined it with his love of technology to help clients develop new models for employee selection. His philosophy focuses on combining sound science with innovation and practicality to create online hiring strategies that provide ROI and demonstrate the value of human capital. He holds a master's degree and a doctorate degree in Industrial Psychology.  
**Website:** [www.rocket-hire.com](http://www.rocket-hire.com)