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Employee Selection: Part 1 – Candidate Pre-screening and Testing What we know, best practices, and future trends.

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Overview – Employee selection is the logical beginning of Employee Relationship Management (ERM). The initial experience of the candidate during the selection process is likely to have a major impact on their view of the organization’s culture, their perception of the value being placed on talent, and their perception of the sophistication of the organization’s business processes.

The definition of job specifications necessary for the evaluation and selection of candidates is a critical foundation for other phases of the ERM cycle. Job specifications provide the initial direction for employees during the on-boarding process (e.g., what are the primary responsibilities and expectations concerning job performance) and are the framework for beginning performance management discussions. Selection system performance in competency areas defined in the job specifications helps to establish developmental goals for the employee and provides a framework for ongoing competency assessments.

Building a high performance workforce certainly starts with selection. Retention rates, individual productivity, and business competitiveness all begin with doing a superior job of matching individuals to jobs. This white paper provides an overview of what is known about common employee selection procedures, what are considered best practices, and describes future trends that are impacting how employees are selected. It is divided into two parts. Part 1 deals with the early phases of employee selection and focuses on pre-screening and testing components. Part 2 deals with latter phases of employee selection and focuses on the employment interview and simulations.

What do we know about candidate pre-screening? – Candidate pre-screening refers to the initial evaluation of candidate qualifications at time of application. The purpose is to reduce a potentially large candidate pool to a more manageable number that can be progressed to more rigorous assessment phases. In today’s job market with jobs relatively scarce and large numbers of available candidates, it is highly likely that employers will be inundated with applications that make efficient pre-screening even more critical.

Criteria for Effective Screening Tools

- Efficiency – With large candidate pools, it is very important that application information can be evaluated quickly. This criterion makes manual reviews problematic and argues for automated solutions.
- Validity – It makes little sense to collect information that is not relevant to job requirements. Validity has to do with the accuracy of predicting potential job performance based on the information collected. This criterion argues strongly for a clear definition of job requirements and a logical relationship between information collected and the defined job requirements.
- Legal Defensibility – One has to be careful to not collect information that is illegal. For example, it is unlawful to ask for date of birth or age but it would be lawful to ask if the candidate is 18 years old or older. This criterion argues for a careful legal review of planned application questions.
- Length – Even in times where there are a large number of candidates chasing relatively few jobs, there is a limit to the patience of candidates completing an application process. It is important to balance the need for relevant information and the length of time needed provide the information. This criterion argues for relatively short information blanks.
- Fairness – It is always important to consider whether a selection step results in differential progression rates among protected classes. This criterion argues for evaluating the progression rates of protected class members during pre-screening and identifying the source of differential progression.
- Coverage – It is important to consider the full range of job requirements when evaluating application information. All relevant information should be used to make an informed decision as to whether to progress a candidate. This criterion argues that job requirements should guide the construction of application questions so that potentially important information is not overlooked.

Types of Screening Methods

- Resume Reviews – The traditional resume has long been a primary source of information for evaluating candidate backgrounds. However, reviewing resume information can be very subjective because rarely reviewers are provided with specific guidelines on relevant information that should be examined. Manual resume reviews do not perform well considering efficiency, validity, or fairness criteria.

Automated resume search procedures allow key words or phrases to be used for quickly reviewing resume content. Automated procedures address efficiency concerns and reduce subjectivity that might adversely impact fairness, but still do not perform well when considering the validity criterion. Due to the unstructured nature of resume content and the various ways candidates might use to describe their qualifications, searches on key words and concepts can easily result in qualified candidates being overlooked.

- **Scored Application Forms** – The application form is also a traditional source for evaluating candidate potential. There is typically a lot of overlap in information provided by a resume and information requested on an application form. The primary difference is the application form is a structured process that solicits the same information from all candidates. As such additional specific questions regarding specific qualifications, preferences, and experiences can be collected.

Application items can be assigned a particular weight and value for different responses. Automated routines can be used to score application forms thereby eliminating the subjectivity of manual reviews and also addressing the criterion of efficiency. They need not be overly long and still provide relevant information concerning the full range of requirements. Scored application blanks have also been shown to be reasonably accurate (Reilly and Chao, 1982; and Schmitt, Noe, & Kirsch, 1984)

- **Assessment Questionnaires** – Assessment questionnaires are similar to application forms but are designed specifically for a particular job. Structured questions that relate to the specific requirements of the job are designed to provide information on the full set of job requirements. These questionnaires are most commonly presented online and scored in real time. Resume data are also captured and scored. This type of pre-screen performs well against all criteria presented.
- **Testlets (short forms/individual scales)** – Tests are most commonly used as a separate step following progression from the application phase. However, short forms of tests or individual scales from tests might be presented at time of application. The biggest concerns of using these types of test during the application phase concern validity and length criteria. Test items may not reflect job requirements in a direct manner and therefore an inference is needed to interpret the meaning of test results. These inferences need to be based on statistical evidence of a significant relationship between test scores and job performance. Length is another potential area of concern. If the test is too long, there is a risk of early abandonment of qualified candidates at time of application because they do not wish to complete a lengthy process.

What are some recognized best practices?

- Automated solutions are used that go beyond the resume or traditional application form. Automation provides critical efficiency in reviewing application information. Structured assessment questionnaires provide a consistent

framework for the evaluation of candidate potential and the information gathered is targeted for a specific job.

- Pre-screening assessments that are based on job requirements and/or validation evidence. Designing assessment questionnaires around job requirements ensures that important information is not overlooked. If testlets are used, validity evidence supports their predictive accuracy and value.
- Detailed views are available that allow the basis of summary results to be explored. Assessment questionnaires provide information in a variety of areas such as resume relevance, competency based measures, technical skills, and relevant experiences and interests. In many cases, recruiters will want to look at performance in each of these sub-areas before making a progression decision.
- EEO data is captured on a voluntary basis to evaluate impact of screening procedures. Various group reports can be generated that show how protected classes perform in the various sections of the pre-screen and whether there is evidence of differential progression. The EEO data is secure and not available for individual decision-making and is only used for group reporting purposes.

What do we know about testing? – According to an HR Executive Editorial Survey in October of 2000, 69% of companies surveyed (286) were using some type of pre-employment testing to evaluate candidates for at least some positions. Testing provides a cost effective tool for evaluating candidates but brings both legal risks and candidate sensitivities. Although testing trends are likely to co-vary with the legal climate governing their usage, they are a well-entrenched aspect of employee selection procedures.

Types of Tests

- Skills Testing – Skills testing is really a work sample. Most commonly keyboard skills such as typing or data entry or computer literacy in specific programs are the focus of these tests. Their relevance depends on evidence that these activities are frequent and important parts of job performance. They are straightforward samples of tasks that will be performed on the job.
- Knowledge Testing – Knowledge testing is similar to skills testing in that the tests represent samples of actual required job knowledge. The tests are designed to measure how much you know about a particular subject matter. Their relevance depends on evidence that knowledge in a particular subject matter is important to job performance and includes a determination of the level of knowledge that is required. They are most relevant in technical or professional jobs and examples include
- Ability Testing – The most common type of ability testing are measures of cognitive or mental ability. This type of ability has been shown to be statistically related to performance in most jobs and the validity increases as job complexity increases (i.e., greater demand on analysis and reasoning skills). However, mental ability testing has also been shown to be associated with adverse impact. Therefore, efforts have been made to research ways to assess cognitive ability that lessen adverse impact. Situational judgment tests have been shown to reduce

adverse impact while maintaining validity. These tests present various situations or job-relevant scenarios to candidates and require them to determine what type of action they would take in the situation. As such these tests are more closely related to the practical application of mental abilities than traditional tests that rely more heavily on verbal and quantitative items to produce a test measure.

Other ability tests focus on specific abilities rather than general mental ability. Examples of some specific abilities that might be measured include mechanical reasoning, motor dexterity, physical abilities, and reading comprehension. Due to the potential for adverse impact and greater legal exposure, generally ability testing programs require strong supportive evidence. This evidence includes job analysis results that support the ability as a job requirement, historical evidence of the validity of ability testing in similar or identical jobs, and/or validity evidence from the local setting where the test is going to be used.

- **Personality Testing** – Although various types of personality tests exist, most personality tests used in employment settings today measure five basic factors of personality. These factors, commonly called “the big five”, include: (1) openness to experience, (2) extroversion, (3) agreeableness, (4) conscientiousness, and (5) emotional stability. There is growing evidence of the usefulness of these factors in predicting job performance (Barrick, M.R. & Mount, M.K., 1991). Generally, conscientiousness has been shown to be the most valid of the five factors across different kinds of jobs but other factors such as extroversion has been shown to be an important component for sales and managerial jobs. In fact, the lack of adverse impact and the consistent evidence of validity have made personality testing a frequent component of selection procedures for sales professionals. Specialized tests designed to measure specific predispositions toward customer service have also been popular in call center and other service environments.
- **Honesty Testing** – These tests are designed to help control inventory theft or time theft such as leave abuses by screening out individuals that are likely to have these propensities. There are significant concerns about using these types of tests. A major concern is the fact the tests have high prediction errors, particularly “false positives” rates which would inappropriately label an individual as having a propensity that they do not in fact possess. Another concern is invasion of privacy by asking personal questions of candidates. A number of states have placed restrictions on the use of honesty tests although they are still popular in industries such as retail where employee inventory theft is a significant cost issue.

Methods of Validation

According to the Uniform Guidelines on Employee Selection Procedures (1978), section 60-3.5, General standards for validity studies, organizations may use one or more of the following methods for test validation:

- **Content Validity** – Content validity requires demonstrating that the content of a test is representative of important components of the job. Knowledge tests and skills tests commonly rely on this type of validation strategy. There should be a job analysis that identifies the importance of various job components and a comparison of the test content with observable work behaviors (e.g., data entry) or work products (e.g. engineering specifications). The closer the similarity between test content and job content, the stronger the evidence for content validity.
- **Criterion-related Validity** – Criterion related validity requires demonstrating empirical evidence of a significant statistical relationship between test performance and important aspects of job performance. Job performance measures (called the criterion) may vary from supervisory ratings to more objective performance data such as production rates, quality rates, etc. The empirical evidence comes from a validation study which might involve collecting test scores and job performance measures from a current group of employees (concurrent validation design) or giving the test to job candidates and then not using the test results and comparing them to future job performance measures (predictive validation design). Tests whose items are not representative of actual job content and require making inferences to interpret results rely on this type of validation strategy.
- **Construct Validity** – Construct validity requires demonstrating the test measures characteristics that have been determined to be important for successful job performance. This strategy requires that two empirical relationships be established; the test is empirically related to the construct and the construct is empirically related to job performance. Usually a series of empirical studies are necessary to establish these two relationships. This is the most difficult validation method and is used infrequently as a strategy.
- **Validity Generalization** – The new SIOP Principles for the Validation and Use of Personnel Selection Procedures (2004) state, “At times sufficient accumulated validity evidence is available for a selection procedure to justify its use in a new situation without conducting a local validation study.” Quantitative methods, referred to meta-analysis procedures, are available for reviewing accumulated validity research. These methods have been successfully used to study the extent that validity can be shown to generalize from one situation to another similar situation (Schmidt, Hunter, Pearlman, & Hirsh, 1985). While validity generalization has been most commonly applied to cognitive ability testing, it is increasingly being used to study the validity generalization of non-cognitive measures.

How effective are tests?

The relationship between cognitive ability testing and job performance has been studied extensively. Meta-analyses suggest that this relationship is one of the strongest among available selection techniques. Unfortunately, there is also well-documented evidence of adverse impact among some racial groups that runs contrary to organizations' desires to improve diversity.

Personality testing (Big Five type) also has a broad base of evidence supporting its use as a selection tool. However, there are concerns that candidates may be successful in faking personality instruments. In fact, employers that hire the top 5%-10% of candidates based on personality scores may well be hiring a number of individuals with inaccurate scores since the top scores are those that are most likely the result of image management (Arthur et al., 2001).

It is difficult to establish the true validity of honesty testing because of relatively low incident rates and lower rates of actually identifying culprits. These tests have had documented positive impact on overall inventory theft rates after being implemented but it is hard to determine if it is the result of the test or the result of an overall higher concern and scrutiny on inventory theft. It is readily acknowledged that there are high prediction error rates associated with these tests due to lower validity.

Skills testing and knowledge testing can be highly effective if properly used since they represent important aspects of job performance in a very straightforward way. They provide a measure that is very close to putting the person in the actual job.

What are some recognized best practices?

- Situational judgment tests are used as an alternative to traditional mental ability testing. Situational tests are not as frequently used as more traditional mental ability tests. According to the HR Executive Editorial Survey on Employment Testing (Oct. 2000), only 6% of companies used situational tests while 20% of companies used mental ability tests. However, there is a growing body of research suggesting that these tests compare favorably with more traditional tests and have lower adverse impact.
- Test results are used in conjunction with other data and/or use banding to mitigate potential adverse impact. Tests should not be the sole criterion for

making an employment decision. According to “Testing and Assessment: An employers guide to good practices” produced and funded by the Department of Labor, states, *“Using a single test or procedure will provide you with a limited view of a person’s employment or career related qualifications...using a variety of assessment tools enables you to get a more complete picture of the individual...This approach will help reduce the number of selection errors and boost the effectiveness of your decision making.”* Combining measures can reduce potential adverse impact.

Banding refers to treating all test scores in a particular range as equal. This approach to scoring can reduce adverse impact depending on the policies established on how to make decisions within a band.

- Tests are applied selectively for specific positions based on job analysis results. Tests should not be used for all positions. A job analysis should define the competency requirements for a particular position and provide a rationale for considering a testing option.

Local validation studies are used to provide site-specific support for test validity. When dealing with tests, it is always better to have more support for test use. When circumstances permit (e.g., there are sufficient incumbents to conduct a concurrent validation study), it is a good idea to conduct a local site validation. This establishes the validity of the test for a particular purpose at a particular site and obviates the need to rely on past validity data and job analysis results as sole support for test usage.

What is the Impact of the Internet?

- Ability to cast a wide net and manage large candidate pools

Pre-screening assessments that are embedded components of electronic job postings provide the ability to rank order candidates on a number of job relevant criteria. Recruiters can post openings at a variety of sites and efficiently review candidate backgrounds as they apply.

- Improved candidate convenience

Testing has traditionally been administered in a proctored session using either paper and pencil tests or PC based tests. This procedure helped ensure that test takers are who they say they are by having to present valid identification. It also helped ensure that tests were not copied or distributed to other candidates. The Internet offers an option for employers to make tests available to candidates in the comfort of their homes. This eliminates the need to travel to testing centers or on-

site locations and the added convenience may well increase the number of candidates willing to go through testing. Security may be somewhat sacrificed in the short term but advances in the field of web-based security procedures will quickly reduce or eliminate these concerns.

- Improved information, administrator support, and speed in decision-making

Web-based testing applications are designed to be complete testing platforms that provide a variety of functionality. These applications provide recruiters and hiring managers with real-time reporting so that candidates can be acted on quickly without having to wait for test results to be scored or scheduled testing sessions to be completed. In addition, detailed reports, administrator support, interpretation support, and expert narratives are more likely to be available in a web-based testing application.

- Better integration with the total hiring process

Web-based applications can be easily integrated with other web-based applicant tracking systems and/or web-based assessment platforms. Recruiters and hiring managers can have total access to a common display and tracking of candidate results to help facilitate decision-making and efficient storage of assessment information.

Where is the Future Taking Us?

Pre-qualified talent pools

Recruitment agencies and job boards are likely to integrate more sophisticated assessment capabilities into their service offerings in the future. Currently, recruitment agencies and job boards offer relatively crude levels of pre-screening. There will be a value add to offer already pre-qualified and fully assessed candidates on core competencies to potential employers. Likewise, it will be attractive to offer automated assessment tools to clients who wish to use them. Web-based applications will enable agencies and job boards to provide these services efficiently without having to invest in developing a new internal core competency.

Web-based Adaptive ability testing

Computer-based adaptive testing has been around for a while. The concept is based on using an extensive item bank with known item characteristics. These characteristics would include the level of ability associated with getting the answer right, the discrimination power of the item to detect differences in ability, and the likelihood of guessing the answer by chance. The computer presents items to a candidate one at a time and uses the information from each presented item to decide which item to present next.

Using this type of item information it is possible to arrive at a reliable estimate of ability in much shorter fashion than traditional testing.

This type of approach is not appropriate for all types of tests but lends itself well to ability testing. The big limitation has been having enough computers at a testing site to accommodate large numbers of test takers and computer literacy requirements for past programs.

The Internet provides easy access and requires limited browser skills to navigate. Web-based testing applications will use item banks to construct multiple parallel forms of a test in addition to significantly shortening test administration times.

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