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Recent Trends in Preemployment Assessment

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Table of Contents

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A lot has changed in the world over the last decade: social media, U.S. presidents, electric cars, health care options, big data, 4K TVs, the economy, just to name a few. Similarly, a lot has changed in the preemployment assessment world within the last 10–12 years. Advances in technology have been at the core of many of these changes as practices evolve and have created opportunities for organizations to better select quality hires. However, one thing that has not changed is the war for talent: companies competing for the best candidates to fill their available job positions. Given these changes, a key question remains: What are these new trends, or big ideas, in the preemployment arena, and are these trends appropriate for all companies? This paper will introduce five prominent preemployment assessment trends and focus on the pros and cons of these trends that are impacting the way companies select candidates in today's world. Although some of these trends have been around longer than this past decade, there has been much focus on their advancement as the world, itself, continues to evolve. These preemployment assessment trends include (a) unproctored internet testing (UIT), (b) applicant tracking systems, (c) gamification, (d) mobile-enabled assessments, and (e) applicant reactions. With the ongoing search for quality talent, these trends can enable companies to find top candidates faster, hire those who are a better fit for their roles, and ensure that candidates have a positive selection process experience. By leveraging the extensive skill set of industrial-organizational (I-O) psychologists, companies can examine how these trends can impact them through a logistical, fiscal, legal, and professional lens.

Unproctored Internet Testing

One of the most significant technological developments in the last decade to change the way preemployment tests are administered is unproctored Internet testing (UIT). In UIT conditions, a physical human test administrator does not monitor the testing event, clearly different from proctored settings. Rather, the assessments are completed online at a location of the applicant's choice. UIT opens many avenues regarding the testing of job candidates, such as being able to test thousands of applicants simultaneously, having assessments scored within seconds, and providing quick results to hiring professionals. However, this may also create additional concerns, such as allowing the applicant to confer with others about their responses, looking up information for how to respond, and sharing test content with other applicants, which might affect the standardization and security of the assessment. Nonetheless, UIT is increasingly being used, and there are both pros and cons to implementing UIT into an organization's preemployment selection process that warrant consideration.

Pros

- **Measurement considerations**
  - Proctored and unproctored noncognitive assessments have similar, and typically good, accuracy predicting job performance (Beatty, Nye, Borneman, Kantrowitz, Drasgow, and Grauer; 2011).
  - Actual cheating rates on UITs appear relatively low (Tippins, 2015).
- **Operational characteristics**
  - Assess large volumes of job candidates simultaneously.
  - Greater pool of job applicants.
  - Ideal for multiple remote locations.
  - Assessment can be accessed and taken any time (i.e., 24/7, 365 days a year).
  - No need for physical storage and security of paper-and-pencil assessments.
  - Saves time and cost of proctors and need for testing facilities.

Cons

- **Measurement considerations**
  - May be more susceptible to the test containing extraneous information not relevant to the job domain.
  - Less standardization of assessment.
  - Although low, the risk of cheating is still present (e.g., looking up answers to knowledge tests, have someone else complete the assessment).
- **Operational characteristics**
  - Candidates must have access to a computer or mobile device and the internet.
  - Equipment and/or software malfunctioning.
  - Applicants' identifty/performance is not verified by a proctor (Tippins, Beaty, Drasgow, Gibson, Pearlman, Segall, & Shepherd, 2006).
  - Candidates need to be computer/technically savvy.

Applicant Tracking Systems

Although first developed in the 1990s, applicant tracking systems (ATSs) have become the standard for collecting and storing volumes of applicant data and information. This includes application forms, assessments, and other candidate information (e.g., military veteran status, family member working with company, and/or valid driver's license). Much has changed over the years for ATSs, particularly in their capability to integrate assessments. There are now a variety of ATSs that organizations can select from and decide which system will best fit the needs of their company. Some online resources (e.g., Software Advice, Technology Advice, and PC Mag list the different capabilities of particular ATSs for easy comparison. If a company decides to utilize an ATS, these resources may help determine which system is best to implement. ATSs may be most ideal for medium to large companies due to their large applicant pools and the amount of information for each applicant file, but smaller companies may also benefit. For example, ATSs can make it easier to track EEO hiring requirements (Schlinger, 2014) rather than doing this manually using a spreadsheet.

Pros

- **Measurement considerations**
  - Can present assessments early in the selection process to weed out poor fits for the job.
  - Unifies the platform for multiple company locations.
  - Help maximize recruitment and provide vigorous reporting and big data analyses (Halutzy, 2016).
- **Operational characteristics**
  - Eliminates the need for paper reporting, thus lower administrative costs.
  - Improves an organization's time-to-hire/tracks multiple recruiting lines (Halutzy, 2016).
  - Track and store large quantity of data on a large pool of candidates.
  - Can be customized to fit the needs of organizations (Schlinger, 2014).
  - Generate emails to candidates automatically (i.e., assessment reminders, autoreplies).
  - Creates reports on candidate data (i.e., pass rates, completion rates).
  - Automatic legal and compliance tracking rather than manually.
  - Merges application/resume and assessment, which can lead to less applicant dropout.

Cons

- **Measurement considerations**
  - ATS can be inaccurate (e.g., resumes being rejected because scanner is not reading resumes properly)
  - May screen out some well-qualified candidates if applicants do not format their resumes to be recognizable by the ATS, which is a concern, in particular, for non-traditional job applicants (e.g., veterans; Verhaag, 2015; Schlinger, 2014).
- **Operational characteristics**
  - Likely need internal experts to create settings and troubleshoot issues.
  - Vendor cost of installing/integrating the ATS and the cost of training users of the ATS.
  - Many people not qualified for the job submit their resumes.
  - Less personable perceptions of organization by job candidates.
  - Servers can go down leading to a poor applicant experience (though this is infrequent).

Advances in technology have… created opportunities for organizations to better select quality hires.

Gamification

Gamification is the practice of adding game-like characteristics to assessments to make them more appealing to candidates. Rather than simply asking behavioral or personality questions of applicants, gamification adds features such as rules; competition; scores; medals, badges, or trinkets won; levels of progress; and comparisons of performance against other "players," typically in work-related scenarios. The intent is to provide a more captivating candidate experience that assesses specific skills while keeping the applicant engaged. For example, Kapp (2014) describes the utilization of gamification in selection for the cyber security industry: Applicants compete against one another in completing a series of challenges, such as breaching computer systems and networks. Kapp (2014) explains that gamification was chosen to assess the applicants' knowledge of network software, creative approaches to various breaches, and ability to think quickly under pressure, qualities not always best measured through education degree or grade point average. Gamification has produced positive outcomes for different populations (e.g. military, healthcare, government) and is becoming a popular method for achieving business goals (Fetzer, 2015; Duvernet & Popp, 2014).

Pros

- **Measurement considerations**
  - Gamification allows applicants to demonstrate how they apply their knowledge, and allows organizations to evaluate applicants in multiple areas, such as personality, problem-solving skills, and ability to multitask and stay focused (Kapp, 2014).
  - Makes assessments seem like a game so applicants may be more engaged in the process.
  - Can be a realistic preview of the job/elements of the job.
- **Operational characteristics**
  - Time spent taking assessments is perceived to be less.
  - Typically appeals to and attracts younger job candidates.
  - May create favorable impressions regarding tech savviness of organization
  - Can relieve some tensions associated with selection tests and assessments.

Cons

- **Measurement considerations**
  - May not be long enough to adequately sample enough behavior to generalize findings.
  - Need more empirical testing in accuracy of job performance predictivity and accuracy in general.
  - Arthur, Doverspike, Kinney, and O'Connell (2017) reported that they could not find any empirical investigations of gamification.
- **Operational characteristics**
  - Depending on how advanced the organization wants the game elements (e.g., well-developed storyline), some technological requirements, resources, and game-element developments may be costly (Callan, Bauer, & Landers, 2015) as would the creation of alternate forms and/or other methods to thwart cheating (e.g., maximizing interactive problem solving, uncertainty within the game; Fetzer, 2015).
  - Possibility of security breaches.
  - May not appeal to or attract older job candidates as much or candidates who prefer keeping work and play separate.

Mobile-Enabled Assessments

Mobile devices (e.g., smartphones, tablets) are growing faster than the number of people who own them (Mack, 2014; Mamilt, 2014) and, as Illingworth, Morelli, Scott, and Boyd (2015) explain, according to industry and technology trends, mobile device usage will continue to substantially increase. Because of this, organizations have responded to this increasing trend and are adapting their recruitment and selection processes to be mobile-enabled. According to Arthur, Keiser, and Doverspike's (2016) Structural Characteristics/Information Processing (SCIP) model that classifies Internet-based testing devices on a continuum, mobile devices are at the high end of information processing. Integrating mobile device assessments into the selection process may be beneficial for some organizations, but there are also drawbacks to utilizing mobile devices as a testing platform (see Lawrence and Kinney' [2017] hot topic paper on mobile assessments for a deeper look at mobile-enabled assessments).

Pros

- **Measurement considerations**
  - Scores on a personality measure were similar for both mobile and nonmobile devices (Arthur, Doverspike, Munoz, Taylor, & Carr; 2014).
  - No mean differences between mobile and nonmobile devices for noncognitive assessments (Arthur et al., 2017).
  - No differences in predictive accuracy found between mobile and non-mobile assessment versions (Kinney, Besl, Lawrence, Moretti & Chang, 2017).
- **Operational characteristics**
  - Wider availability of the assessment across multiple platforms.
  - Greater convenience of taking assessments anywhere at any time.
  - Candidates perceive organization as current with technology.
  - Larger applicant pool reaching candidates who own mobile devices but not non-mobile devices (e.g., PCs).
  - Lower test-related costs (e.g., unproctored test).

Cons

- **Measurement considerations**
  - More psychometric equivalence evidence of the assessment versions (i.e., PCs, tablet, smartphones) needs to be established and measurement equivalence between mobile vs. non-mobile devices (see: Arthur et al., 2014; Morelli, Mahan, & Illingworth, 2014).
  - Reliability and speed of internet connection varies in different places.
  - Scores on cognitive measures may be lower on mobile devices (Arthur et al., 2017; LaPort, Huynh, Stemer, Ryer, & Moretti, 2016).
- **Operational characteristics**
  - Applicant can get distracted during assessment (e.g., public setting, noise).
  - Screen resolution may not be clear or big enough for some displays (e.g., tables, graphs).
  - Small screens may increase difficulty to respond to some questions.
  - Excessive scrolling can affect assessment results.
  - Assessments need to be constructed for mobile device adaptation (e.g., one item per screen) and this could incur additional cost and time.

Applicant Reactions

Recognizing that applicants are not only potential new employees, but are also current and/or potential customers, companies are increasingly seeking to ensure that applicants have a positive experience when applying for a job, regardless of the selection platform and/or program being used. Applicant reactions are an important source for organizations in the design of selection procedures, and research shows applicant reactions can impact candidates' acceptance rates and the public image of the organization (Anderson, Salgado, & Hulsheer, 2010). In fact, applicant reactions have been found to be significantly related to applicant attitudes (i.e., attractiveness of organization) and intentions (i.e., intentions to pursue the job, formally accept the placement, and/or recommend the position to others), as well as test performance (McCarthy, Bauer, Truxillo, Anderson, Costa, & Ahmed, 2017).

Although organizations may not be able to always incorporate the most favorable methods in the selection process, organizations could implement steps within the selection process that are popular with their targeted applicant pool, such as the length of the test (Besl, Lawrence, Skinner, Moretti & Kinney, 2017). The most typical way that organizations measure applicant reactions is through surveys that immediately follow the assess-

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ment or through a postselection process follow-up, although this latter method can suffer from low, non-representative response rates. Implementing methods to tap applicant reactions of the employment selection process may offer valuable feedback to organizations.

Pros

- **Measurement considerations**
  - How to best measure applicant reactions
  - Can measure dropout rates at different parts of the selection process to see what parts applicants may not like.
  - Applicant reactions to length of a preemployment assessment do not decrease until test length exceeds 100 minutes (Besl, Lawrence, Skinner, Moretti & Kinney, 2017)
- **Operational characteristics**
  - Helps organizations get a sense of how to improve and retain/gain customers who applied but did not get hired since applicants can be or are currently customers.
  - Can provide insight on selection process length, coverage, perception of the organization, any difficulties in the process, etc.
  - More likely to view organization favorably and accept job offer.

Cons

- **Measurement considerations**
  - Response rates may not be ideal or representative of all applicants.
  - Studies delivered in different modes have found inconsistent results (Tippins, 2015).
- **Operational characteristics**
  - Some applicants will respond favorably to a survey at the end of the selection process just to get the job.
  - Need to create and implement some feedback mechanism (i.e. survey) to capture applicant reactions adding another step for the applicant.

Conclusion

As can be seen in the five trends covered in this paper, technological developments and products have certainly altered the selection process in many companies, and the ever-present need for more accurate and effective ways to select the right candidates will undoubtedly lead to future advances. For example, a few additional selection procedures that have arisen in the past few years and continue to evolve are video interviews, web scraping, big data, machine learning, and wearable technology (e.g., virtual reality, Google Glass). Although there is often the immediate reaction to jump on board and embrace each new product and/or trend, organizations are wise to consider the pros and cons of each big idea for their own use and conduct appropriate validation studies. However, one thing is certain: Technology will continue to play a critical role in pre-employment assessments and selection going forward. With strong skill sets covering the above areas, I-O psychologists are well-equipped to assist organizations in determining the potential benefits and pitfalls of each of these trends.

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