

Gamification

in assessment

How to choose the best option for your candidates and yourself



Gamification in assessment

Table of contents

- Introduction 3
- Making a distinction 4
- Pros and cons of gamification 6
- Choosing the right option 7
- What is the evidence for gamification?..... 8
- Gamified assessments can be used alongside traditional assessments..... 10
- 7 Steps to make gamification work for you 14
- Conclusion 16
- Bonus: psychometric fingerprint 17
- References 18

Gamification in assessment

Introduction

Multinational HR and talent practitioners are increasingly introducing gamification elements to enhance their selection strategy. This stems from a desire to differentiate their hiring process, engage candidates and boost their employer brand. However, in the excitement around gamification, it is easy to forget one important detail: the real purpose of assessment is to measure the job-relevant capabilities of candidates in order to recruit the right people.

This paper distinguishes between games (which are primarily used for pre-application attraction), gamified assessments (proven psychometric instruments which feature game-style elements to make them more engaging) and game-based assessments (purpose-built games which assess the user's behaviour while 'playing' the game). Each can be used alongside traditional psychometric assessments.

Our aim is to help you make an informed choice regarding which option will best meet your needs. The paper also includes an overview of the latest research evidence on gamification, as well as seven practical steps to help you choose and implement the right solution.



The real purpose of assessment is to measure the job-relevant capabilities of candidates in order to recruit the right people.

Gamification in assessment

Making a distinction

In assessment, gamification is an umbrella term which covers:

- ➔ **Games:** Interactive games and virtual simulations are sometimes used by recruiters. However, their purpose is not to 'assess' the players. Instead, games are primarily designed to engage potential applicants and encourage them to 'connect' with the organisation. They can become viral marketing tools that promote the employer brand.
- ➔ **Gamified assessments:** A gamified assessment is a proven psychometric assessment that has been enhanced with 'game-style' elements to make it more engaging for candidates. With gamified assessments, psychometric science comes first. They are designed to capture job-relevant cognitive abilities or personality data and are proven and robust predictors of success. The game elements are simply added to create a more engaging tool.
- ➔ **Game-based assessments:** A game-based assessment is a purpose-built game which assesses candidates by how they play the game and respond to challenges. 'Data points' are embedded into the structure of the game and candidates are assessed on the decisions and choices they make. Insights collected from these data points are used to assess the cognitive abilities, preferences and personality traits of each candidate.

Interactive games are a good option if you are looking to attract (and not measure) applicants.



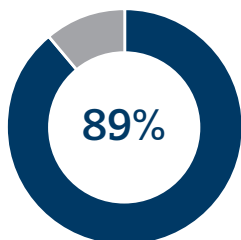
Did you know?

Games, gamification and game-based assessments are three different things.

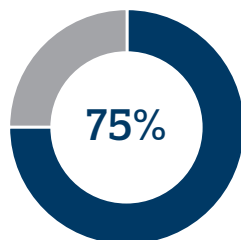
Gamification in assessment

Making a distinction (continued)

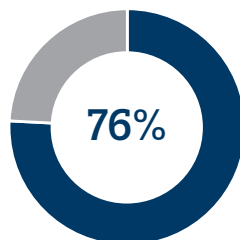
Talent practitioners would use games in:



Attraction



Screening and selection



Learning and development

However, if you are looking to assess candidates, you will need something different. Gamified assessments, game-based assessments or traditional psychometric assessments – or a combination – can provide a viable, complementary solution.

Arguably, the real distinction between these options is the starting point. Traditional assessments are primarily designed to satisfy recruiters. Every recruiter wants an objective, evidence-based tool that will help them to identify individuals in their applicant pool who match a role's requirements.

In a poll¹ of multinational HR and talent practitioners, we found that 89% would use games as part of an attraction campaign and 75% would consider using gamification and game-based assessments as part of their screening and selection strategy. In addition, 76% said that they would use gamification elements as part of learning and development. This growing interest in gamification stems from a desire to increase engagement levels among candidates and employees alike. It would bring more visibility, openness and a greater sense of accomplishment into the workplace.

However, candidates have a different need. They want an engaging assessment experience that will hold their attention. Gamification is popular because it is seen as a way of satisfying both audiences. The fundamental distinctions between a game-based assessment and a gamified assessment are:

- ➔ A **game-based assessment** is a 'game' primarily designed to satisfy candidates. It meets their needs while also providing insights for recruiters.
- ➔ A **gamified assessment** is an 'assessment' that is primarily designed to satisfy recruiters. It meets their needs while also appealing to candidates.

Ultimately, it is a question of whether you want something that meets a recruiter's criteria first and is then adapted to meet the candidate's criteria as much as possible – or the other way around.

¹ This poll was undertaken at a global conference organised by cut-e, an Aon company, in October 2016. A total of 55 HR and talent practitioners from around the world were questioned.

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Pros and cons of gamification

Gamified assessments and game-based assessments can:

- ➔ Engage and motivate active and passive applicants.
- ➔ Differentiate an organisation and promote a modern and attractive employer brand.
- ➔ Reduce the drop-out rate amongst candidates.
- ➔ Help employers recruit top talent.
- ➔ Provide instant feedback to candidates.

These options are often used in volume recruitment, where it is important to quickly identify 'good fit' candidates amongst applicants who have little experience or similar qualifications. However, they can also be used to support the recruitment of graduates, interns and experienced hires. With competitors also chasing the same high calibre candidates, gamified assessments and game-based assessments can help to differentiate your brand.

The downside

Some recruiters think that gamification will be fun for their candidates. However, a high-stakes recruitment situation is not 'fun' for anyone taking part. Parties are fun – but if you threw a party for a group of candidates and told them their behaviour would be assessed, the fun would soon disappear! The same applies to gamification. Some employers have experienced a negative backlash in the media for using game-based assessments that were perceived as frivolous. The challenge is to ensure that your gamification elements are fit for purpose. Every candidate wants to be taken seriously, so you must ensure that your assessments are justifiable. Above all, you must assess whether your candidates have the attributes that will enable them to succeed in the role.



Perks and pitfalls of gamification

Advantages

- ✔ Highly engaging
- ✔ Increases candidate diversity
- ✔ Easy to deploy
- ✔ Can provide valuable data and insights
- ✔ Increases test performance accuracy

Disadvantages

- ✘ The 'game' must suit the role
- ✘ The life cycle can be short
- ✘ Some people do not like playing games
- ✘ Games are only 'fun' when the stakes are low
- ✘ Some aspects of gaming are better than others when it comes to hiring

Gamification in assessment

Choosing the right option

The table below summarises the relative merits of games, gamified assessments and game-based assessments.

Ultimately, your choice will depend on what you want to achieve. Keep in mind that your best assessment option may not involve gamification at all. Traditional psychometric assessments still have a strong appeal and can play a vital role in your organisation.

Relative merits of games, gamified assessments and game-based assessments

Type	Use	Ease of development	Quality of results	Key benefit
Games	Attracting applicants – as they provide an engaging and often unique view of the organisation	Tend to be purpose-built	Tend not to be assessed	You are differentiating your hiring process
Gamified assessments	Assessing job-relevant skills, knowledge and abilities via proven assessments that layer in-game elements	Easily customisable	Combine assessment data and 'paradata' to provide in-depth insights into each candidate	You are using proven psychometric assessments and making them more appealing
Game-based assessments	Assessing job-relevant skills, knowledge and abilities by monitoring and collecting data on how the candidate 'plays' the game	Tend to be purpose-built but customisable options are available	Combine assessment data and 'paradata' to provide in-depth insights into each candidate	You are providing a highly distinct and engaging experience for candidates

Gamification in assessment

What is the evidence for gamification?

Research into the impact of gamified and game-based assessments is in its infancy. However, there have been some promising developments which highlight the effectiveness of gamification.

- ➔ **Enjoyment.** Traditional ability tests and personality questionnaires have been shown to be valid predictors of job performance in studies, such as those by Schmidt & Hunter (1998) and Robertson & Smith (2001). Gamified and game-based assessments build on research by Hamari et al (2014) which found that people find games engaging.
- ➔ **Fairness.** Banfield & Wilkerson (2014) have reported on user perceptions of the 'fairness' of using games in an educational context. They found that gamification can not only enhance the perception of fairness, it can increase the motivation of the user. Therefore, it can be assumed that the same applies to gamified and game-based assessments in the workplace.
- ➔ **Ecological validity.** Wozniak (2015) refers to the extent to which the findings of a research study are able to be generalised to real-life settings because games have their own dynamics and this may affect the decisions made by the 'player'. This may persuade some organisations to choose gamified assessments over game-based assessments.



Did you know?

This lesson has been learned in other areas of business, e.g. when creating PowerPoint presentations. Budding presenters soon discover that they should avoid cheesy elements that will annoy or distract their audience. The same principle applies when designing an assessment.

Gamification in assessment

What is the evidence for gamification? (continued)

Our research – What is and is not engaging

We asked 540 international, millennial job applicants to ascertain what is and what is not engaging when it comes to gamification.

The participants universally agreed that game-style elements held their attention. Certain game-style elements were very positively perceived. For example, the participants liked completing designated challenges that would unlock different levels and enable them to progress. They liked receiving immediate feedback and the fact that the assessments were interactive and challenging.

Gaming elements to be wary of

However, they expressed a clear concern about the design and visual appeal of an assessment. Anything which was identified too strongly as a 'game' was deemed to be inappropriate and unprofessional. They showed a strong preference for an assessment that enables them to 'feel' that they are being taken seriously as a candidate.

The conclusion here is that gamification elements can increase the assessment experience (up to a point). However, beyond a certain threshold, the benefits tail off. If there is too much gamification in your assessments – or if you include the wrong type of gamification – candidates start to tune out.



Research: what applicants want

Participants like:

- ✔ Progression through challenges to new levels
- ✔ Immediate feedback
- ✔ Challenging and interactive tests
- ✔ Assessments that convey a serious feeling

Participants do not want:

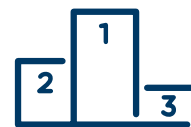
- ✘ Inappropriate sounds or music
- ✘ Fancy transitions
- ✘ Assessments that are too playful or irrelevant

Gamification in assessment

Gamified assessments can be used alongside traditional assessments

In a separate study conducted with West Coast University of Applied Sciences, in Germany, we created a simulated selection process. A total of 200 participants 'applied' to a fictional company – one group took traditional assessments and the other undertook gamified assessments. Four weeks later, the groups were reversed, so those who initially took the traditional assessments then took the gamified assessments and vice versa. After each set of tests, the participants were asked to rate their perceptions of tests' fairness and the organisation's attractiveness.

The results show that individuals who like to play games rate an organisation higher when gamified assessments are used. However, it is important to note that those who do not enjoy games do not rate the organisation lower. Also, the scores achieved on the traditional tests were no higher or lower than the scores on the gamified tests. In other words, people do not perform better or worse in gamified assessments. This is an important finding because it means that gamified assessments can be used on an equal footing with traditional assessments.



Scores achieved on traditional tests
were no higher or lower than scores achieved on the gamified tests.

Gamification in assessment

Gamified assessments can be used alongside traditional assessments (continued)

Gamified assessments:

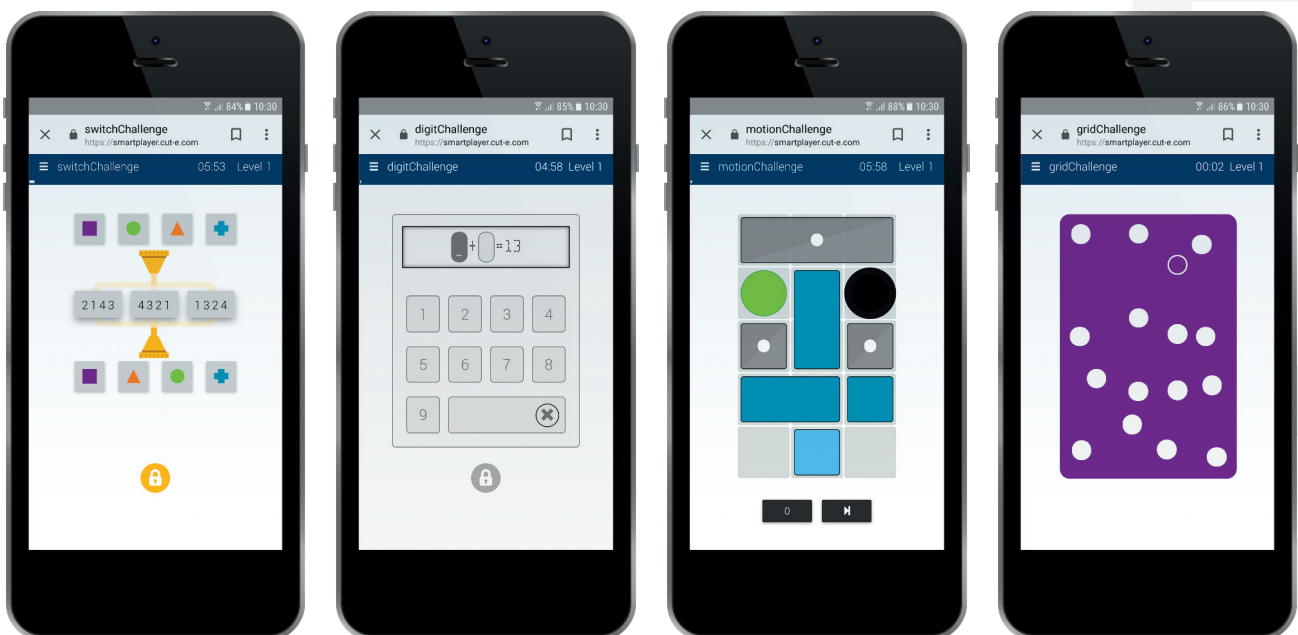
cut-e's *smartPredict* is a great example of a series of challenges that boost candidate experience. The challenges are comprised of:

- ➔ switchChallenge – measures logical reasoning
- ➔ digitChallenge – measures numeracy
- ➔ motionChallenge – measures complexity planning capability
- ➔ gridChallenge – measures executive attention

Optimised for smartphones and engaging through gamified elements, *smartPredict* consists of a range of serious psychometric assessments for important situations. The applicant's acceptance results in high completion rates.



These screen views of *smartPredict* give an idea of the ease and engaging experience that video assessments can provide.



Gamification in assessment

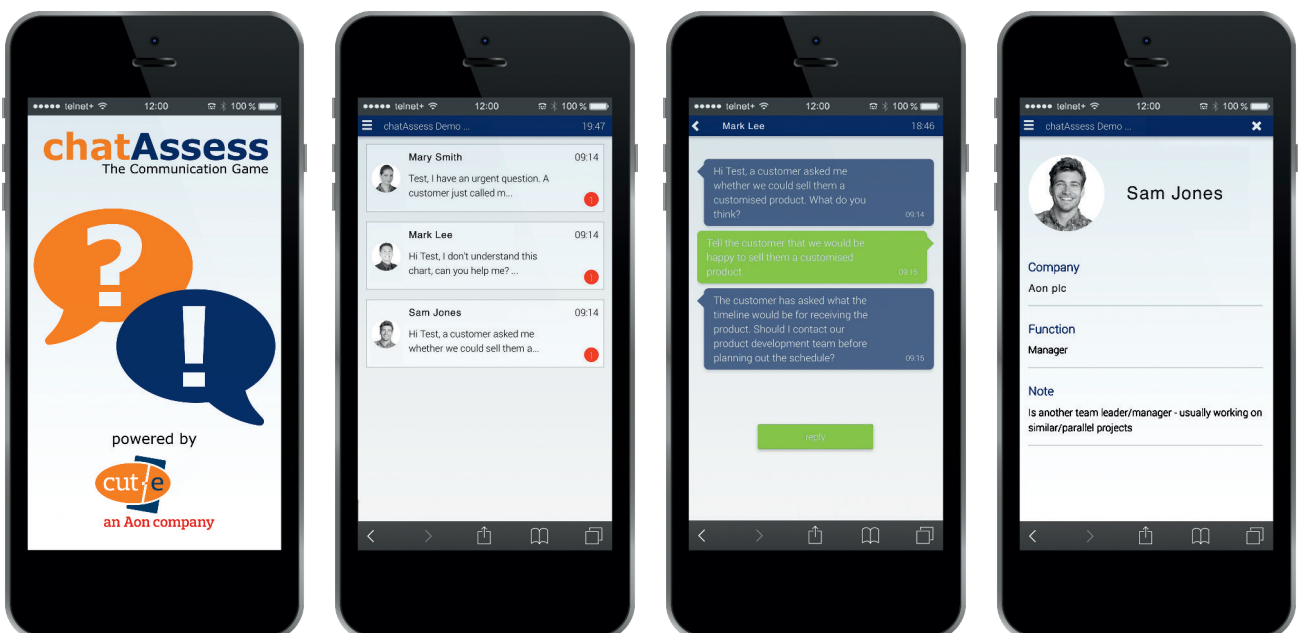
Gamified assessments can be used alongside traditional assessments (continued)

Gamified situational judgement

chatAssess is a web app designed for any device. It combines multiple cognitive test elements with situational judgement and personality assessment in a communication game: a strength-based, highly customised gamified assessment compiling results in a single matchscore.



These screen views show *chatAssess*, an instant-messaging simulation game embedding psychometric assessments.



Gamification in assessment

Gamified assessments can be used alongside traditional assessments (continued)

Assessment in story context

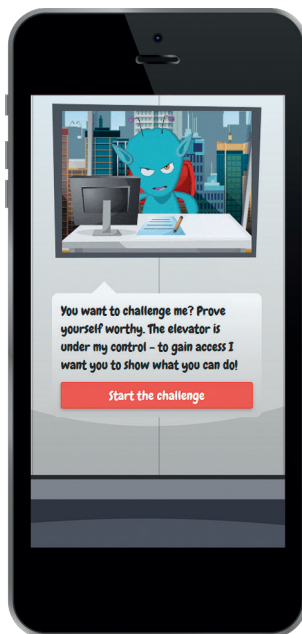
playAssess is a web app that allows an individual selection of cognitive robust assessments embedded in a fun and engaging game context. Different challenges and levels allow instant feedback to increase candidate engagement. Integrating this game in the branding strategy engages applicants and current or future customers. Suitable for any device.

Game-based tests

Fun and fast, our web apps can be developed to meet any need. For example, this competition app embeds an attention performance test in a football championship scenario. The app provides instant feedback after every action and also a leadership board. Our apps are designed for any device.



These screen views show: *playAssess* embedding assessments in a story; and *goalMind*, a game-based competition app



Gamification in assessment

7 Steps to make gamification work for you

The following steps should help you identify and implement the right gamification solution for your talent strategy:

1 Decide on your objective. If you want to attract applicants or create a viral marketing tool, then consider creating a game. If you want to select job candidates, by assessing specific skills, abilities and aptitudes, then consider using a gamified or game-based assessment. Remember, a broad range of traditional assessments – including ability, personality, motivation, values, integrity and creativity – are available to suit specific needs. Situational Judgement Questionnaires and simulations can also be developed to better understand how candidates will respond in real workplace scenarios.

2 Choose an option that meets your needs. If you are looking to assess applicants for a specific job, then you will need to understand what good – and bad – looks like in that role. When you know what you want to measure, you can decide whether a traditional, gamified or game-based assessment is required. You may find that candidates in certain sectors, such as the media, advertising and IT, prefer a gamified approach. It all depends on your applicants' preferences. A combination of different assessment approaches could be the best option.

3 Look at the underpinning science. If you are considering a gamified or game-based assessment, the first question to ask is: what are its underpinning psychometric properties? Look for genuine proof that the tool will predict performance in the role and measure what it claims to assess. Detailed, validated evidence will be critical at this point. Once you are satisfied that the tool will meet your recruitment needs, the second question is: how appealing will this really be for candidates? You must be able to justify your selection decisions. You can only do this if your assessment has a sound scientific basis.

4 Ensure the assessment is relevant. Your gamification elements should have 'face validity'. In other words, candidates should feel that assessment is appropriate to the role. A war game in which someone controls a drone might help you to select a candidate for a job that involves controlling a drone. However, it should not be used to select someone for a customer-facing role.



Be clear
about your objectives
from the outset.

Gamification in assessment

5 Make it fair. Your game or assessment should follow the principles of fair testing. In other words, it should give every applicant an equal chance of success, with no adverse impact. It should appeal to all candidates, regardless of their physical ability or cultural background. Candidates should not be disadvantaged if they lack colour vision or the manual dexterity to perform well (unless these aspects are relevant to the job). Candidates should also be able to perform equally well on any device, e.g. smartphone, tablet, desktop or laptop. This will require reliability trials which will be across different devices to check candidate performance and completion times. These will ensure the assessment fits the purpose.

6 Communicate with your candidates. Whichever assessment option you choose, it is good practice to explain to your candidates what you are assessing and how their performance data will be used. You may want to provide a feedback report for each candidate, showing their results. This is particularly important if your applicants are potential customers, as you want them to feel engaged by your selection experience.

7 Integrate the data. Your traditional, gamified or game-based assessments should seamlessly integrate with your Applicant Tracking System and candidate management system. Integration amalgamates data from different aspects of your application process into a candidate record. This places the information needed to make the right selection at your fingertips. Also, the 'scores' of successful candidates can then be combined with other candidate data to create useful talent analytics.



The best assessments are scientifically validated.

They offer an immersive candidate experience and provide meaningful, job-relevant insights about each applicant.

Gamification in assessment

Conclusion

Gamified and game-based assessments can be used alongside traditional psychometric assessments to recruit candidates. They help to differentiate an organisation, raise brand awareness and engage prospective talent from all backgrounds.

Whichever gamification option you choose, it is important to look beyond the hype. Ensure your preferred assessments are grounded in scientifically-validated psychometric rigour. When your assessments provide meaningful, job-relevant insights, they will help you make fair and objective selection decisions.

cut-e and Aon have combined expertise and, as Aon's Assessment Solutions group can help you find the right mix of gamification and measurement elements in attraction, selection and hiring – without compromising the assessment result.



In practice

Marriott International created a multilingual hotel-themed online game to attract and engage millennials worldwide but particularly in emerging markets where the hospitality industry is less established. Players assume the responsibilities of a kitchen manager and have to run a virtual hotel kitchen. The game highlights the reality of what it is like to work in the industry and aims to motivate young people to consider a hospitality career. It was widely promoted on social network sites, such as Facebook and LinkedIn, as well as on job boards, such as Monster.



Did you know?

Gamification makes cheating harder. In one study conducted by Aon's products and analytics team, a sample of participants were asked to take a gamified working memory assessment. One group was instructed to obtain the highest score they could by any means necessary, including cheating. The other group was told to do their best. Comparisons between the two groups revealed an approximate 3% score difference between groups, which was non-significant. This offered some evidence for the idea that gamified and game-based assessments may be hard to fake or cheat.

Gamification in assessment

Bonus: psychometric fingerprint

Creating a 'psychometric fingerprint' – the power of paradata

Paradata is the valuable information and insights that can be gleaned from how a candidate plays a game or completes an assessment, such as their response time or how long they spend reading instructions.

In the past, assessing candidates was the equivalent of measuring footballers simply by the number of goals they score. Now, so much more information can be generated. For example, a footballer's 'heat map' can show their movement on the pitch, whether they make productive runs, whether they track-back etc. A similar level of analysis is now possible in assessment. The vast number of data points that are now included in traditional, gamified and game-based assessments provide more information to interpret, thereby allowing you to make more accurate decisions about your candidates.

Also, because the way each of us processes information and responds when we are assessed is unique, it is possible to create a 'psychometric fingerprint' for each candidate. Knowing not only what score a candidate achieved but how they went about it, can help you prevent cheating and spot potential. That being said, there is much work still to do in order to understand how paradata relates to other important outcomes like performance, whether these relationships hold across different gamified and game-based assessments.

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References

Banfield, J. & Wilkerson, B. (2014). "Increasing student intrinsic motivation and self-efficacy through gamification pedagogy." *Contemporary Issues in Education Research*, 7(4), 291-298.

Deterding, S., Dixon, D., Khaled, R., & Nacke, L. (2011, September). "From game design elements to gamefulness: Defining 'gamification'." Presented at the 15th International Academic MindTrek Conference: Envisioning Future Media Environments, Tampere, Finland.

German, Schmidt, F. L., & Hunter, J. E. (1998). "The validity and utility of selection methods in personnel psychology: Practical and theoretical implications of 85 years of research findings." *Psychological Bulletin*, 124(2), 262-274.

Hamari, J., Koivisto, J., & Sarsa, H. (2014). "Does gamification work? A literature review of empirical studies on gamification." Presented at the 47th Hawaii International Conference on System Sciences (HICSS), Waikoloa, Hawaii.

Hausknecht, J. P., Day, D. V., & Thomas, S. C. (2004). "Applicant reactions to selection procedures: An updated model and meta-analysis." *Personnel Psychology*, 57, 639-683.

Lievens, F., Buyse, T., & Sackett, P. R. (2005). "Retest effects in operational selection settings: Development and test of a framework." *Personnel Psychology*, 58(4), 981-1007.

Montefiori, L. (2016). *Game-based assessment, insight from a tech start-up*. In "Game-based assessment – Concepts and insight from research and practice." Symposium presented at the 2017 conference for the European Association of Work and Organisational Psychology, Dublin, Ireland.

Pew Research Center (2017). "Mobile technology fact sheet." Retrieved from <http://www.pewinternet.org/fact-sheet/mobile/>

Robertson, I. & Smith, M. (2001). "Personnel selection". *Journal of Occupational and Organisational Psychology*, 74(4), 441-472.

Wozniak, J. (2015). "The use of gamification at different levels of e-recruitment." *Management Dynamics in the Knowledge Economy*, 3(2), 257-278.

About cut-e

Founded in 2002, cut-e (pronounced 'cute') provides online tests, questionnaires and gamified assessments for attraction, selection, talent management and development. The company's smart, valid and innovative psychometrics have made it the preferred partner of multinational organisations.

In May 2017, cut-e was acquired by Aon plc, a leading global professional services firm providing a broad range of risk, retirement and health solutions. cut-e now operates as part of Aon's global offering in talent solutions, helping clients achieve sustainable growth by driving business performance through people performance. cut-e and Aon, as Aon's Assessment Solutions, undertake 30 million assessments each year in 90 countries and 40 languages.