THE FUTURE OF ONLINE ASSESSMENT
A rapidly changing landscape
A WARM WELCOME TO A NEW DIGITAL WORLD

After a wave of consolidation in the assessment industry, the online assessment space is ripe for innovation. With technology and the digital world constantly evolving, it is patently clear that the industry needs to adapt or risk alienating the very people that use its services – organisations and candidates.

In this paper we explore the key trends that are shaping the face of assessment today. Many of these changes are already influencing where assessment will take us in the near future.

We'd like to focus on the top five:

- Enhanced candidate experience: the longstanding stand-off is ending between the traditional and staid on the one hand and the more engaging and lively candidate experience on the other. New forms of attractive but accurate assessment are now disrupting the party.
- Mobile must have: while the mobile web isn’t exactly anything new, assessment is now starting to catch up and overcome the practical challenges to meet the expectations of end users. Offering mobile solutions is non-negotiable.
- Going global: the majority of online assessment models are derived from earlier US or UK-based research. There is a growing body of evidence that suggests that a more culturally sensitive approach is needed.
- Social mobility and diversity: the assessment industry has only met the minimum standards of legal diversity compliance. As organisations drive much harder to achieve genuine balance and support social mobility, the onus is on providers to follow suit.
- Personal touch: the demand for an enhanced candidate experience has seen a rise in configured or bespoke assessments over recent years, for example situational judgement tests (SJT). This is expanding into personality and ability content, as testing becomes tailored to an organisation’s values and brand.

We also look over the horizon to consider the effects of changes in skills across the global economy. The increased proliferation of artificial intelligence (AI) and robotics will shape how people add unique value in the workplace and therefore the capabilities that will need to be assessed in the future.

Our experience has taught us that after a long period of hiatus in the world of assessment, new entrants joining the market are driving change and are riding the wave of emerging technological advances.
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When clients describe how it feels to work with online assessment providers, you often hear phrases like ‘very technical’, ‘quick to tell you what can’t be done’ or occasionally far worse. The consensus is that here we have an industry that is often talking to itself, narrowly focused in its own niche area and not pausing to understand the client’s perspective. Listening doesn’t appear to be one of our best qualities.

In hindsight, it is easy to understand why. Assessment evolved from the education sector initially and its use in military selection nearly a century ago, for example the US Army Alpha and Beta tests. While newer techniques like SJTs provide more realistic answers, traditional ability testing has remained the predominant method for sifting through large volumes of candidates. While this approach has gone online, the content itself has remained largely unchanged.

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Meanwhile, organisations and recruiters alike have been increasingly concerned with the candidate experience and how best to portray the employer’s brand. First impressions count, and organisations are only too aware that it’s not just about attracting top talent but also not alienating those who weren’t successful in the recruitment process. Creating a positive brand experience is paramount.

Research carried out by the global retailer Tesco, found there was a strong correlation between a positive recruitment experience and brand loyalty. Similarly, multi-specialist global giant Virgin, found that it was losing several million pounds a year in lost subscriptions from rejected candidates – counteracting the business benefits of good hiring.

Candidates expect their time to be used well, they want to be engaged and welcomed, and to receive a qualitative and intuitive experience. In hiring contexts, they also want to learn something about the job and themselves, so the assessment content needs to feel relevant. Feedback too must be readily available.

All these seem to be quite reasonable demands, but all too often candidates are being pushed through an impersonal process. Hardly inspiring.

Candidate expectations:

Respect my time, don’t waste it.

I want to be engaged, not imposed on. I’m not at school.

Tell me about the job. Invite me to take part. Say thank you.

Give me some useful feedback.

Candidates are customers.

Are they getting the kind of customer experience they expect?
Candidates are also customers and even when not directly consuming, the information shared among the plethora of social medial platforms can have a hugely detrimental effect on the bottom line. A poor candidate experience can inflict reputational damage that can take many years to win back.

While many organisations throw large sums of money on great attraction campaigns, they typically follow this with a traditional approach to assessment. This can bring candidates back down to earth with a bump and leads to an impersonal, jarring feeling.
Assessment providers focused on selecting the best people have often clashed with recruitment teams whose main concern is managing the employer brand and any fallout from rejected candidates.

Most organisations have continued with traditional assessment, unclear of the alternatives and the concern of not having a robust assessment process that selects the best people. Given the considerable financial outlays, they have had to settle for the existing market offerings. In some cases, there have been attempts to go full tilt in the other direction with very immersive or gamified solutions but these have often lacked the rigour required to meet the psychometric standards needed.

Combining a great candidate experience with robust assessment has been the preserve of a handful of companies who could afford to commission large bespoke projects. However, the introduction of configurable assessment solutions has shaken up the status quo. In comes personalisation to a company or role family, mobile-friendliness and the welcoming candidate experience, that comes with intuitive design, video and interactive content.

Developing more engaging ways of presenting assessment has opened up many opportunities for test developers. These include:

- **Refreshing proven assessment methods**
  It’s all about making the experience more engaging and tailored to both client and candidate needs. Assessments need to be designed to be effective on mobile platforms; rich multimedia content adds to the experience.

- **Gamification and game-based formats**
  Managing the costs of creating and flexing content for different clients is critical if this format is to really build traction. Creating a more fun and immersive experience will be particularly appreciated by our Millennial generation.

- **Immersive simulations**
  Focusing more specifically on creating realistic work samples, these scenarios are brought to life by the use of avatars and realistic digital simulations. Examples include managing a customer service situation through to a fault-finding assessment for engineers. Current systems offer some customisation, and for certain situations the added realism of a simulation approach may offer more relevance for candidates than pure gamification. Again, costs of entry will need to fall to drive uptake.

- **Augmented and virtual reality**
  This can be seen as an extension of immersive simulations. While they have had little use to date in assessment, these technologies are making rapid leaps forward and should offer significant opportunities for creating new and highly engaging experiences.
The above techniques also offer opportunities to measure psychological dimensions not currently being tapped, such as learning, complex problem-solving and, potentially, creativity.

The opportunity is there for assessment providers to start combining both style and substance – configuring quality assessment around an organisation’s values and brand, while creating more attractive ways to deliver that experience.

There is no longer an excuse for the stand-off that has existed between candidate experience and robust assessment. A refreshed approach to assessment means providing a welcoming and engaging candidate journey. That said, one must never lose sight of the scientific basis of assessment and the need for accuracy.

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‘MOBILISING’ ASSESSMENT

Back in 2014, mobile internet traffic overtook desktop. The internet has already adopted mobile, and although this is the new normal, the world of assessment has been slow to respond.

Globally, in 2016 there were over 4.7 billion unique mobile phone subscribers, 63% of the total population. Uptake is predicted to reach 72% by 2020.

In the US for example, there is now more than one mobile connection per head of population and 88% of these have mobile internet access. In China, over two-thirds of internet connections are via mobile devices only, leap-frogging fixed line access. In the UK, the communications regulator OfCom revealed that twice as much time is now spent online via smartphones compared to laptops and PCs combined.

In the world of recruitment, suppliers of applicant tracking systems are seeing a rapid increase in applications from mobile handsets. Page Up, a leading provider, reported that nearly 40% of applications were made from mobiles and predicts this could reach 80-90% by 2020. According to a recent survey by Glassdoor, the jobs and recruiting site where candidates share their recruitment experiences, 89% of respondents consider their mobile as a key tool to find their next job.

“If applicants can’t take your assessment on a mobile device, they are going to look elsewhere for a job,” said Charles Handler, a leading analyst of the assessment market, in his 2014 report on assessment trends. The message could not be any clearer. With data suggesting that 20% of millennials ONLY use a mobile to surf the web, this assertion will increasingly become reality.

Not only should assessment be mobile, Handler continues, but it also needs to be engaging, feel job related and reflect the employer’s brand identity. And candidates expect to receive feedback given the time they’ve put in to the assessment process.

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Dr Charles Handler, leading market analyst in assessment
A COMPLETE REDESIGN

So why has the world of online assessment been so slow to catch up? Inertia in the industry is one reason. Also, much of the existing content such as ability tests has been designed for larger screens, using questions that are laden with information, so not a good fit for smaller, mobile screens.

These problems are surmountable but they require considerable reverse engineering. Platforms need to be mobile-friendly and responsive to different devices. New content will often be needed and the experience needs to be intuitive, not simply cramming the desktop approach onto a phone.

The issue of equivalence between results when gathered via a smartphone, tablet or laptop/PC is perhaps the most significant area needing redesign. For personality questionnaires and SJTs, research suggests that there is little noticeable difference in the quality of completion. However, when taking ability tests that have not been designed or optimised for mobile, the results can be unsurprisingly lower than desktop. This is fundamentally because the questions have not been designed for the smaller screen.

Creating fresh item banks will be the biggest challenge for assessment providers, as many of the ones they currently hold will not squeeze easily onto smaller screens. A secondary factor relates to ethnic minority candidates, who may on average score lower in some cognitive assessments, and are more likely to be using a mobile device. Therefore it is essential to redesign content for the mobile juggernaut.
PUTTING MOBILE FIRST

Organisations need to adopt a ‘mobile first’ approach to create items that work equally well on smaller and larger screens. For more difficult questions, this will require more challenging but concise content to avoid unnecessary scrolling or navigation challenges. This will level the playing field between existing and new offerings – a lot of cognitive ability content will need to be revamped.

The timing of cognitive ability tests has also been subject to increased research scrutiny. Moving away from a speed-based testing approach to a more power-based approach, using untimed methods of testing (e.g. exploiting adaptive testing techniques), may help make the process fairer for different groups and mitigate cross-platform differences.

Since testing moved online, it was expected that the candidate would find a suitably quiet environment so that they could fully concentrate and perform at their best when completing a cognitive assessment.

But this isn’t just about candidates. Why shouldn’t HR, recruiters and managers also be able to access assessment information on the move via their smartphones? Increasingly, a mobile experience will become a basic necessity and the onus sits with assessment providers to respond in ensuring that assessment is part of a wider end-to-end mobile recruitment experience.

The internet has already gone mobile, and with it user expectations have followed. So the question is not whether assessment should go mobile or not - it has to if it wants to remain relevant - but how to make it work as well as possible.

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SPLITTING PERSONALITY GLOBALLY

The assessment industry grew primarily out of the US and UK, drawing heavily on the scientific research developed in these countries. This has enabled helpful advances over recent decades in the understanding of key psychological constructs, notably leading to the development of the Big 5 Model of Personality that has become ubiquitous.

However, much of personality research was initially drawn from Western samples and driven by the questions that were included in the original research. As a result, it was relatively Anglo-centric and then applied globally. What (and who) you put in your research has an impact on what you get out.

However, many practitioners have recognised that the ‘Big 5’ and its derivative tools don’t always work quite as well in Asian contexts, for example, where managing one’s ‘face’ is an important part of social behaviour. In essence, we may still not be measuring everything organisations might find it useful to know about people and real world settings at work.

Most of the current crop of contemporary personality assessments that have been commercialised are built around the ‘Big 5’. Other niche tools have been developed to help address questions about how someone can operate in a specific job or team and the risks they carry as a leader. However, empirical research conducted by Dr. Steve Woods of Aston Business School in 2012 illustrated that most personality questionnaires broadly measure similar constructs, but with different sets of questions.

Many of the leading social psychologists working in this area have moved forward in their thinking in recent times. Leading personality researchers Ashton and Lee (2012) found that in a range of countries including South Korea, China and Brazil, a six-factor solution was a better fit to the data around personality.

This research still comprises the traditional ‘Big 5’ components, but splits one of them – ‘Agreeableness’ – into a more focused factor of that name, and a separate one that looks at ‘Honesty/Humility’. To understand what this looks like in practice, think of Nelson Mandela and how he stood out as a leader in this regard and was able to gain the trust of so many.
The issue of unconscious bias has received a great deal of attention, exposing its role in poor and sometimes discriminatory hiring decisions. While much more work remains to be done, improvements in interviewing and assessment centre practices will improve equality of opportunity for all candidates.

An issue that runs parallel to this and is proving increasingly toxic for organisations is what we would term ‘conscious bias’. Historically, companies were comfortable following the advice of assessment specialists who stipulated that some degree of adverse impact was tolerable in online testing. Standards established in US case law such as the so-called 4/5ths rule, accompanied with some high profile cases with expensive corporate payouts, brought the issue to the fore.

Since these legal milestones, the diversity agenda has built up steam more broadly. For example, the percentage of female board members in the S&P 500 was 19.2% in 2016. In terms of engaging ethnic minority employees, the overall trends are gradually moving in a positive direction. However, there is still a very long way to go.

For many years now, ability testing measuring verbal, numerical or abstract reasoning have been a staple part of volume hiring, particularly for graduate recruitment. In theory, these tests help identify those individuals who will later make great managers, and research evidence shows they can predict elements of performance, at least in part.

However, this form of testing had been much criticised for being particularly prone to adverse impact. Data consistently shows that candidates who are female, from minority ethnic backgrounds or older in age, are on average less likely to score highly.

There can also be legal risks, and in countries such as the US this has led to a reduction in their usage for this reason. Regardless of the legal context however, if using such tests comes at the price of fairness by reducing the likelihood of women, ethnic minorities or older candidates getting a job, we have a problem on our hands in terms of reducing the overall diversity of the workforce.

Many organisations have embraced the diversity agenda, which has become a business priority as well as an aspiration. As a result, there has been an increasing unwillingness to put up with the status quo and instead companies want to see an end to adverse impact in testing.

For many though it is akin to choosing a drug to treat an illness, but knowing that it has major side effects. You might take the pill, but you do so knowing the risks and wishing for a safer alternative.
Simply trying to design the perfect ability test is not the solution. Of the many dimensions of performance that can be measured when screening candidates, abilities are actually one of the inputs most susceptible to adverse impact. This is largely because a person’s performance in ability tests is heavily linked to educational opportunities and social upbringing. In other words, the higher your socio-economic class and the better the quality of education you received, the more likely you are able to do well on these tests.

This dominant approach for screening candidates based on reasoning ability is very narrow and from a business perspective this is the fundamental concern. There are several different dimensions that are critical to success for a given employee population, be that competencies such as resilience, communicating with others, teamwork, creativity or solving practical problems. These all matter too.

However, the assessment industry has been hooked on selling one narrow solution at the expense of addressing this broader set of competencies when screening candidates. Using ability tests as a sifting method has become almost an automatic response for many. The way assessments are built and priced has also been a factor. These are relatively inexpensive for high volume use compared with measures of behavioural style, such as personality questionnaires, that are frequently too long and unfocused. SJTs are another option but need to be created for the context, so it takes some effort to put in place. Offline options such as interviews are simply too expensive and impractical at high volumes.

However, there are alternatives. Historically, tests were designed to be ‘swallowed whole’ – a fairly long assessment for a particular characteristic. It is now possible to select the questions most relevant to each aspect of the role, validate these against the behaviours that differentiate high performers in that organisation – and then deliver this online.

PROVIDING THE PERFECT BLEND
By blending different types of questions – behavioural, situational or ability-based – it is possible to create more rounded assessments. These can be relatively short, typically 25-40 minutes long, and cover the full breadth of a role at the screening stage. And it doesn’t cost the earth to do.

So there is a viable alternative, one that won’t reduce diversity and cause adverse impact. Ability questions will continue to have a place, but they do not need to be administered standalone, mitigating their negative effects.

A blended approach is a practical solution for volume hiring programmes to not only separate out significant number of candidates, but do so both validly and fairly. It has been widely agreed that this model does deliver a more effective approach, and we can expect to see wider adoption as these solutions become a suitable alternative to traditional ability tests.
Traditionally, assessment involved ability testing and then over time personality assessment was added to the mix. However, these approaches suffered from a ‘one size fits all’ approach that had a number of unintended consequences.

Apart from making assessment feel very formulaic, many organisations use the same tests. This has created a huge amount of information on the web as candidates share their experiences about the quality of some of these assessments.

The ‘look and feel’ is one obvious way in which assessment has begun to converge with the employer brand. The candidate experience typically carries the company logo and ‘on brand’ design elements in order to be consistent with the wider organisational identity. This will increasingly become the norm as systems become more configurable, rather than a bolt-on that clients have to pay extra for.

Beyond the cosmetic appearance, content has also become more immersive. The growth of SJTs has been the most obvious face of this change – bespoke assessments that are built for a particular role and company context.

Candidates are given a real taste of the kind of situations and judgements they are expected to make in the job. This is a far more positive experience for most than the more abstract traditional tests. The use of branching techniques to make SJTs more interesting again adds another dimension rather than making it a mind-numbing sensation like filling in a form.
The candidate journey is also developing. The traditional model was all about following instructions in an impersonal, robotic way. Companies like Royal Sun Alliance have recently included welcome videos as part of their assessments, introducing the role and personalising the experience. And they end with a thank you to the candidate for the time and interest they’ve invested in the company. This change in tone is significant, showing how personalising the assessment experience and converging it with attraction and engagement can be achieved with relatively simple enhancements.

As well as helping deliver fairness, the way different types of questions are blended into one test configured for a specific organisation or around job families is also a growing part of the personalisation trend. Completing two off-the-shelf ability tests and a full length personality questionnaire, taking 60 to 90 minutes, is no longer an extravagance that organisations can realistically inflict on their candidates.

Content is being configured around a set of core behaviours, with personality, ability and SJT items mapped or cherry picked to match and reviewed against existing data for accuracy of measurement. This is often followed by in-company validation.

Such a blending technique can reduce testing time by 25-50% compared to traditional methods by focusing on the questions to be included. This greatly enhances the experience and makes the process far more relevant. This approach also has the great advantage in that it supports the social mobility agenda by dampening the adverse impact from standalone cognitive assessments.
Video and graphics are also increasingly being incorporated into the tests, in a bid to boost candidate engagement. The deployment of gaming and simulation techniques – whether ‘gamified’ in feel or more realistic – will take it to the next level.

The technical challenge for the more highly immersive approaches will be to make them more personal, which will inevitably mean that the costs of customisation will need to fall to help drive a wider uptake.

Online assessment is entering new territory. Further down the funnel, the traditional assessment centre is likely to come under threat as more complex problem solving exercises move into a highly scalable, online environment. Down the road, the application of AI techniques will add real processing power to assessment scoring and analysis. Similarly, ‘top of the funnel’ assessment prior to selection will also become more widely used with the growth of ‘Realistic Job Previews’ and interest from job boards who seek to increase their candidate databases.

Out with the ‘psychobabble’ language of old and in with customisation and plain English. Presentation of reports and ease of understanding is crucial as assessments are designed around company competencies – enabling the process to be scaled and used widely by line managers. Providing feedback is also the rule rather than the exception.

Traditional training approaches, requiring users to go through lengthy courses before being allowed to use psychometric tools, are less relevant as the interpretation of information is done by technology and provided in a ready to use format direct to managers. If the output can be designed to be used easily and safely, this removes the need for an intermediary as the reporting becomes more automated. While a need for a core of experts will remain, the training barrier is increasingly being eroded and not affecting the uptake in assessment.

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In summary, assessment is becoming more focused and personalised, there is more inbuilt fairness around the needs of the candidate and client. At a more fundamental level this shift signals a change from an expert-controlled, off-the-shelf approach to one that is digital and customer-oriented.

As the old analogue model of assessment catches up with the internet age, we can increasingly expect to see these type of solutions as viable alternatives. Through this process of innovation, the previous tensions between what has gone before, versus what could be, will start to disappear as the quality of the user experience converges with predictive accuracy.

The benefits of finding the best people does not have to come at the expense of unsuccessful candidates. Rather, assessment needs to become part of the engagement process and not work against it.

**The Assessment 'Magic Quadrant': candidate experience and precision converge**

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<tr>
<th>Traditional off-the-shelf tests</th>
<th>Personalised, forward-looking immersive but accurate</th>
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<tbody>
<tr>
<td>Benefits: Accurately identify elements of high performance</td>
<td>Benefits: Better performers identified Happy candidates (selected &amp; rejected)</td>
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<tr>
<th>Basic assessments &amp; unstructured interviews</th>
<th>Gamification “Whizz bang solutions”</th>
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<tbody>
<tr>
<td>Benefits: None! ...pot luck</td>
<td>Benefits: Fun! ...but probably pot luck</td>
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While not the end of traditional assessment models, it is clear that precise and focused digital alternatives are the way forward. Assessment buyers won’t be fooled by solutions that appear attractive cosmetically but lack rigour. In the short term, we anticipate a significant forward movement within the market for new solutions that focus on the top right ‘magic quadrant’, combining both style and substance.
We have explored the most significant developments already underway in the world of online assessment. Many of these nascent changes are already taking place and the market landscape is changing as new innovations become available. But what will drive change over the next 10 to 20 years?

One of the most significant drivers will be technology, around a nexus of factors including big data analytics, AI and the growth in robotics, which will influence the nature of many jobs.

The World Economic Forum’s ‘Future of Jobs and Skills’ report, which analyses the employment market outlook to 2020 and beyond, identified a range of skills that will become more or less important as the labour market changes with technological developments, among them advanced computing and robotics.

In simple terms, those skills that will be replaced, automated or simply enhanced by technology will become less of a differentiator and demand for them will be eroded. Basic service and planning tasks will, for example, become more automated, reducing the need for manpower.

Conversely, certain human capabilities, such as creativity and complex problem solving, may become even more important. Equally, the rapidly changing work environment, running on many different inputs and channels of information, will place increased emphasis on human, emotional intelligence and the resilience to cope with ever-changing demands.

And finally, the ability for people to show far greater flexibility in their behaviour, from one situation to the next, will increase expectations placed on employees. In knowledge industries, people will increasingly become the ‘glue’ that leverages different technologies to make enterprise work.
The challenge for online assessment will be how to more effectively assess these complex capabilities, in particular creativity, which requires new ideas and novel responses. Measuring these kind of attributes means close scrutiny of open-ended answers to questions, rather than traditional multiple choice format.

The growth of AI techniques and their application in education to activities such as essay marking, will allow for more sophisticated analysis of work-based assessments. Such techniques may also be applied to rich data sources such as video interviewing to automate scoring and glean greater insight than a typical manager might do when evaluating such content.

More widely, the field of analytics is likely to affect how data is digested throughout the recruitment funnel. This will not only bring about greater effectiveness of the traditional online assessment data, but other inputs from work-related social media channels, such as LinkedIn, and information captured in applicant tracking systems. Linking and analysing these multiple sources will help build a richer picture of candidates and hence lead to a more accurate matching to a given role. Assessment data will increasingly be used at the pre-hiring stage, to onboarding and then development, creating a kind of candidate ‘passport’.

What is likely to continue over the long term is the ever-increasing focus on making the assessment experience more immersive. The ability for many individuals to collaborate over the internet on complex tasks, pioneered in gaming, will open up a range of assessment possibilities. Similarly, highly realistic augmented and virtual reality technologies are becoming more common in consumer-facing applications.

Along with the development of so-called chatbots that simulate human interaction via avatars, real and exciting opportunities for assessment of more complex human interactions are opening up, catapulting assessment into virtual 3D contexts. As assessment becomes part of attracting as well as selecting candidates, the same challenges remain to deliver robust tests alongside a fresh, engaging experience.

The possibilities for assessment are huge. The challenge is not so much whether these things are possible, as most of the technologies mentioned are in fact already here. Rather the opportunity lies with assessment designers to harness these technologies and use their creativity to transform the assessment experience.