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Power Up: UK skills

Boosting transferable skills to achieve
inclusive growth and mobility

Acknowledgement

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Foreword

Power Up

This is the third in a series of insight reports that explore topical challenges and opportunities facing UK businesses and government.

There is widespread concern that rapidly advancing technology could permanently displace large numbers of workers. While the UK's flexible labour market has adapted well in the past, business and government must find new ways to support workers from all backgrounds and at all skill levels to navigate a course through the changing work environment. This will be critical if the UK is to retain its global competitive advantage and ability to attract top businesses and talent alike.

In this report, we examine the opportunities for policymakers, educators and employers to recognise the underlying transferable skills inherent in different occupations to smooth the transitions between different industries and occupations. To some extent, people have always moved between occupations, to suit lifestyle choices or in response to changing labour market conditions. However the UK workforce will need to become even more flexible to respond effectively to the pervasive changes that technology will bring to all jobs.

One of the most pressing challenges facing businesses is the need to understand the many alternatives for how organisations get work done – for example through the use of joint ventures, contractors, freelancers, crowdsourcing or robotic process automation – and to decide on the right combination of talent, technology and workplace.

While there are likely to be significant changes to the role of the workforce alongside machines, there is one constant – the value of transferable, uniquely 'human' skills. Our research shows that these skills are a good indicator of a worker's resilience and durability in the face of changing labour market demands. Recognising the untapped potential of transferable skills across all sections of the workforce would help improve worker mobility between jobs and regions, unlocking significant economic and social benefits.

To be competitive in the future, organisations will need a nimble workforce with strength in transferable skills and a confident and adaptable mindset. The ability to identify these characteristics in recruitment processes is essential, as is the need to create better post-recruitment support for workers who are making transitions between industries and roles.

Creating and improving pathways for workers to make these transitions will have significant benefits for social mobility, opening up greater choice for workers throughout their careers. Improving social mobility and access to education are prime objectives for Deloitte, ones which we seek to achieve over five years through our social impact ambition *One Million Futures*, working in partnership with organisations such as Teach First.

We believe this is a future we can all shape together: businesses, educators and government, national and local. This report sets out our ideas and recommendations for how we can do this.

Finally, thank you to the individuals and organisations who have contributed to this report.



A handwritten signature in black ink that reads "David Sproul".

David Sproul
Senior Partner and Chief Executive

Executive summary

The fourth industrial revolution? The future of work? The next machine age? People have different labels to describe the scale of current uncertainties and opportunities facing businesses and workers, but everyone agrees that advances in technology are changing fundamentally how work is done and by whom.

We have carried out research into employment data from 2001 to 2016, a period including the instability and collapse in confidence following the financial crisis. Our analysis found that workers with the strongest transferable skills, such as analytical, communication and strategic skills, which are all inherently ‘human’, proved the most resilient to this economic shock and to automation. These occupations have driven the majority of job growth since the turn of the century, with the top 20 per cent in our research accounting for over half of the total net job creation (1.9m jobs). In contrast, occupations with the least transferable skills (bottom 20 per cent) were vulnerable to displacement, and saw a significant net fall of 530,000 jobs.

To supplement our macro data analysis, we hosted an online discussion with a ‘community’ of over 350 teachers, recruitment specialists and experienced workers in order to test our findings. We found that workers with the strongest set of transferable skills, combined with a confident, flexible mindset, have proved most resilient in turbulent labour markets and in the face of advances in technology. These transferable skills fall into three main categories: communication, strategic and analytic – and these are fundamentally ‘human’ skills.

The ability to acquire knowledge and apply it to different situations is enormously important for job success. However, the ‘static’ knowledge that has enabled humans to complete cognitive or physical rules-based tasks in the past, such as spotting anomalies in x-rays or on a factory assembly line is increasingly obsolete as automation becomes more sophisticated.

There is a great deal of uncertainty about which of today’s jobs will continue to exist in even the near future. The number of people employed in 44 per cent of occupations in the UK is declining. Our analysis of ONS statistics shows that while more than 3 million jobs have been added to the UK economy in the past 16 years, employment is falling in 160 of the 366 occupations analysed. These occupations currently employ 10.8 million people in the UK, but this compares with 13.2 million in 2001.

If the predictions of technology disrupting entire industries come to pass, workers will need the ability to move into different types of jobs and at different points in their career, and apply their underlying transferable ‘human’ skills to different contexts.

It is for this reason that our report focusses on skills rather than knowledge.

So what should we do?

To build and make better use of the transferable skills required to adapt to changing demands in the workplace, preconceptions about traditional career pathways based on academic achievement and expertise need to be challenged. Instead, more should be done to identify transferable skills across all parts of the workforce and create pathways for workers to transition between industries and different roles. Transition programmes already target some groups of workers, such as the military, but this support could be provided to workers in other industries who have jobs that are at a high risk of automation. Recognising these skills in a more open-minded way, and helping young people and existing workers to strengthen them will improve worker mobility and make the UK labour force resilient in the face of significant change.

Context and myth-busting

The world faces seismic shifts in global markets, driven by advances in technology, changing demographics and the different expectations of millennial workers, all of which are changing how business is done.

At a macro level, businesses are facing greater pressure to invest in technology and revise their operating models in order to remain competitive in an increasingly fluid and global marketplace. However, at a micro level, many workers fear that they will be displaced by technology and will not have the skills to find alternative employment.

The scale and pace of technology-driven change in the workplace will depend on several factors, including the cost of labour compared to the cost of technology, the proportion of tasks that can be automated, the availability of capital to invest in technology and leadership vision.

Technological change is nothing new, but the rhetoric has focused overwhelmingly on doom and gloom – there will be mass unemployment, growing inequality, less stability and lower quality jobs for workers, as well as increasing regional inequalities. This is one version of the future, but there is another.

Throughout history, advances in technology have led to more and better-paid jobs. Indeed, the UK labour market had a strong record of flexibility during the 20th century. So far during the 21st century, things are no different. Since 2001, the number of jobs in the UK economy has risen by over three million and unemployment is currently at a 42-year low.

However, the UK has not yet fully felt the boost to productivity and growth that innovative technology can offer, since a combination of uncertainty, low growth and cheap labour may have reduced risk tolerance and therefore slowed the commercial adoption of automation. A tight labour market alongside a constricted supply of labour from the EU could incentivise companies to invest in technology. Deloitte's first *Power Up* report identified a significant potential gap in the UK workforce, in the event that foreign workers who are currently employed in low skill occupations (i.e. those where there is the greatest opportunity for automation) leave the UK post-Brexit.¹ Investing in automation would be one way to help businesses to cope with this gap.

In contrast to the commonly held belief that workers move regularly between jobs, the Resolution Foundation recently published findings suggesting that this competitive and uncertain labour market is making people more likely to stay in their job for longer and that the rate of job-switching by workers is well below the level seen before the financial crisis, which hinders productivity.²

Inequality between regions has grown consistently over time, and the UK has greater disparity in regional productivity than other European countries.³ The UK government has committed publicly to addressing this issue in its Industrial Strategy. Our research suggests that there is reason to be optimistic: although the regional workforces in London and the South East have the strongest transferable skills, the average skills level in other UK regions is not far behind (see page 20). The proposal in the Industrial Strategy to introduce new policies to boost skills, alongside investment to create more connected infrastructure, support housing growth and seed growth industries, might break the current self-perpetuating cycle of a high-skills region creating more high-skills opportunities and more investment, which in turn creates job growth and greater wealth in that region.⁴

Speeding up the economy

Ian Stewart, Chief Economist, Deloitte



The frequency with which people move from one job to another has diminished since the turn of the century, with the proportion of the total number employed moving from job-to-job each quarter falling from an average of 2.9 per cent in 2002 to a low of 1.8 per cent in 2009.⁵

Since then it has picked up, but even today mobility remains below the 2001 level. Moreover, the proportion of the working-age population moving between regions and employers has fallen by a quarter since 2001.⁶ Lower levels of mobility have occurred in spite of factors that would tend to be associated with greater workforce mobility – rising levels of immigration, growth in renting and a rising graduate population.

When people change jobs they take with them new and different ideas about practices and processes. For all its prowess in research and innovation, the UK lags behind other countries in diffusing and applying knowledge and ideas. The slow pace of idea diffusion seems to be a factor behind the lower levels of productivity seen in smaller and medium-sized businesses relative to large companies in the UK. The Bank of England's Chief Economist, Andy Haldane, has argued that speeding up rates of technological diffusion holds the key to narrowing this productivity gap.

The effective matching of experience and skills with job opportunities raises the performance of organisations and the pay of those changing jobs. Research by the Resolution Foundation shows that, on average, individuals who move region and employer are £2,000 per year better off.⁷

Rates of job mobility partly reflect the economic cycle. The financial crisis coincided with a sharp fall in job-to-job movement, along with increased levels of unemployment and uncertainty about the economy. A logical reaction by workers to this environment was to stick with a known employer. As the economy picked up after the recession, job mobility increased.

Two factors suggest that this process has further to run. The UK unemployment rate currently stands at just 4.3 per cent, the lowest level in 42 years and lower than in most EU states. Half of UK businesses have faced skills shortages in the last year, with employers struggling to fill jobs as demand for staff increases.⁸ At the same time the free movement of people from the EU to the UK, which has been a major source of labour supply for the UK, seems likely to be curtailed by Brexit.⁹ This could create an environment where labour demand outstrips supply, increasing incentives to change jobs.

But the final element in the story of labour mobility is a human one. Changing jobs involves a degree of risk, swapping the familiar for a new workplace and set of challenges. Uncertainties often loom large about how skills and experience gained in one role will apply in another. This report offers some reassurance on this front, highlighting the overlap between core skills in different roles and the transferability of skills across occupations and industries.

Methodology

Our research builds on the analysis in Deloitte's report, *Talent for Survival: Essential skills for humans working in the machine age*, which uses the same methodology. O*NET data describes the importance and depth of 120 attributes (excluding knowledge) associated with every task within each occupation in the US labour force. We mapped this data to 366 occupations in the UK labour force.¹⁰

We used resources from the Occupational Information Network, which have been developed under the sponsorship of the US Department of Labour/Employment and Training Administration. The O*NET database contains information on the importance of hundreds of standardised and occupation-specific descriptors, which are continually updated, by surveying a broad range of workers from each occupation. We took the 120 distinguishing attributes of the O*NET occupations and mapped these to the equivalent UK Standard Occupational Classification (SOC) using a mix of available 'crosswalks', employment data published by the US Bureau of Labor Statistics, the Computer-Assisted Structured Coding Tool (CASCOT) developed by the University of Warwick's Institute for Employment Research and, in the relatively small number of remaining cases where the mappings were indeterminate, personal judgement.¹¹ Using this methodology, we identified the 40 most commonly used skills in the UK workforce, and then ranked each occupation by the depth of those skills required to perform the job.

This report aims to illustrate the value of transferable skills in preparing UK workers with the flexibility and resilience required in the future, where jobs will change much more rapidly than they have in the past.

We identify a set of enduring skills that are prominent across many occupations in the UK workforce, which can be applied in many different contexts, rather than provide a comprehensive analysis of what it takes to perform a specific job or achieve a given salary level.

Our contention is that jobs which require the deepest level of these transferable skills are best-placed for the future. We have excluded knowledge and physical skills from the analysis since we think that in the future the demand for specific physical skills and 'static' knowledge will fall, with a growing emphasis on flexibility and adaptability.

These most commonly needed attributes, referred to throughout the rest of this report as 'transferable' skills, can be grouped in to three categories:

Communication – ability to listen, respond and express ideas effectively in different contexts, influencing others

Strategic – ability to exercise judgement, leadership and creativity to decide the way forward in complex environments

Analytical – ability to acquire new knowledge, process information and draw accurate conclusions.

Having identified and ranked these transferable skills, we then compared the depth of these skills across the 366 selected UK occupations and determined which occupations have the most transferable skills.

Figure 1. The 40 most important attributes in the UK workforce

Rank 2016	Rank 2001		Talent
1	1	-	Oral comprehension
2	2	-	Oral expression
3	3	-	Active listening
4	4	-	Speaking
5	5	-	Problem sensitivity
6	6	-	Speech clarity
7	7	-	Written comprehension
8	8	-	Speech recognition
9	9	-	Critical thinking
10	10	-	Deductive reasoning
11	11	-	Reading comprehension
12	15	▲	Social perceptiveness
13	14	▲	Inductive reasoning
14	13	▼	Monitoring
15	12	▼	Information ordering
16	16	-	Written expression
17	17	-	Coordination
18	18	-	Judgment and decision making
19	19	-	Time management
20	20	-	Service orientation



Communication



Strategic



Analytic

Rank 2016	Rank 2001		Talent
21	21	-	Writing
22	22	-	Complex problem solving
23	23	-	Category flexibility
24	25	▲	Active learning
25	24	▼	Selective attention
26	26	-	Persuasion
27	27	-	Instructing
28	28	-	Fluency of ideas
29	30	▲	Negotiation
30	31	▲	Originality
31	29	▼	Flexibility of closure
32	33	▲	Learning strategies
33	34	▲	Management of personnel resources
34	32	▼	Perceptual speed
35	35	-	Time sharing
36	36	-	Visualization
37	39	▲	Systems analysis
38	37	▼	Mathematical reasoning
39	40	▲	Systems evaluation
40	38	▼	Number facility

Source: O*NET, Deloitte analysis 2017

Unlocking the power of transferable skills

Transferring between occupations throughout a career is nothing new, but the length of time for which expertise remains relevant is declining rapidly. For example, the coding website 'Github' estimates that coders will need to update their skills every 1.5 years to stay up to date.¹² In less technical roles the need for updating skills can be up to five years. The concept of a single career with a fixed knowledge-base will become less common – workers will need to continue to learn and apply their skills in different ways throughout their career. For example, communication skills used to be very important for face-to-face interaction; now there is a greater need for communication skills through written expression and active listening in a digital context. Since channels for communication are evolving quickly, workers need to have the confidence and ability to adapt to changing conditions proactively.

A similar principle can be applied to strategic and analytical skills, the other types of core transferable skill. It will be the combination of an individual's mindset together with proficiency in these core skills that will determine his or her success in the future labour market. Our community of teachers, recruiters and experienced workers confirmed this view and suggested a subtle but important shift in how these transferable skills are now deployed. In the past, their primary value was within a team-oriented office environment, whereas now there is a growing emphasis on workers being entrepreneurial, self-sufficient and customer-focused.

The pace of change can be intimidating for businesses, workers and government. Businesses wrestle with how to invest in technology such as artificial intelligence and robotics, balancing corporate responsibility to their workers with the need to succeed in a competitive global marketplace. Workers know that their jobs will be affected by automation but struggle to know how best to respond, given uncertainty about the pace and extent of the changes, which are largely beyond their control. The government is under significant pressure to reduce the fiscal deficit, but the UK is at a point where it is vital for incentives to stimulate business innovation, and investment to upskill the workforce and reduce regional inequalities, if the UK economy is to prosper.

Our research identifies the core set of transferable skills and we make a case to employers and government for supporting workers to upskill themselves in these key areas, and make them more resilient in the face of automation in the workplace (see Figure 1).

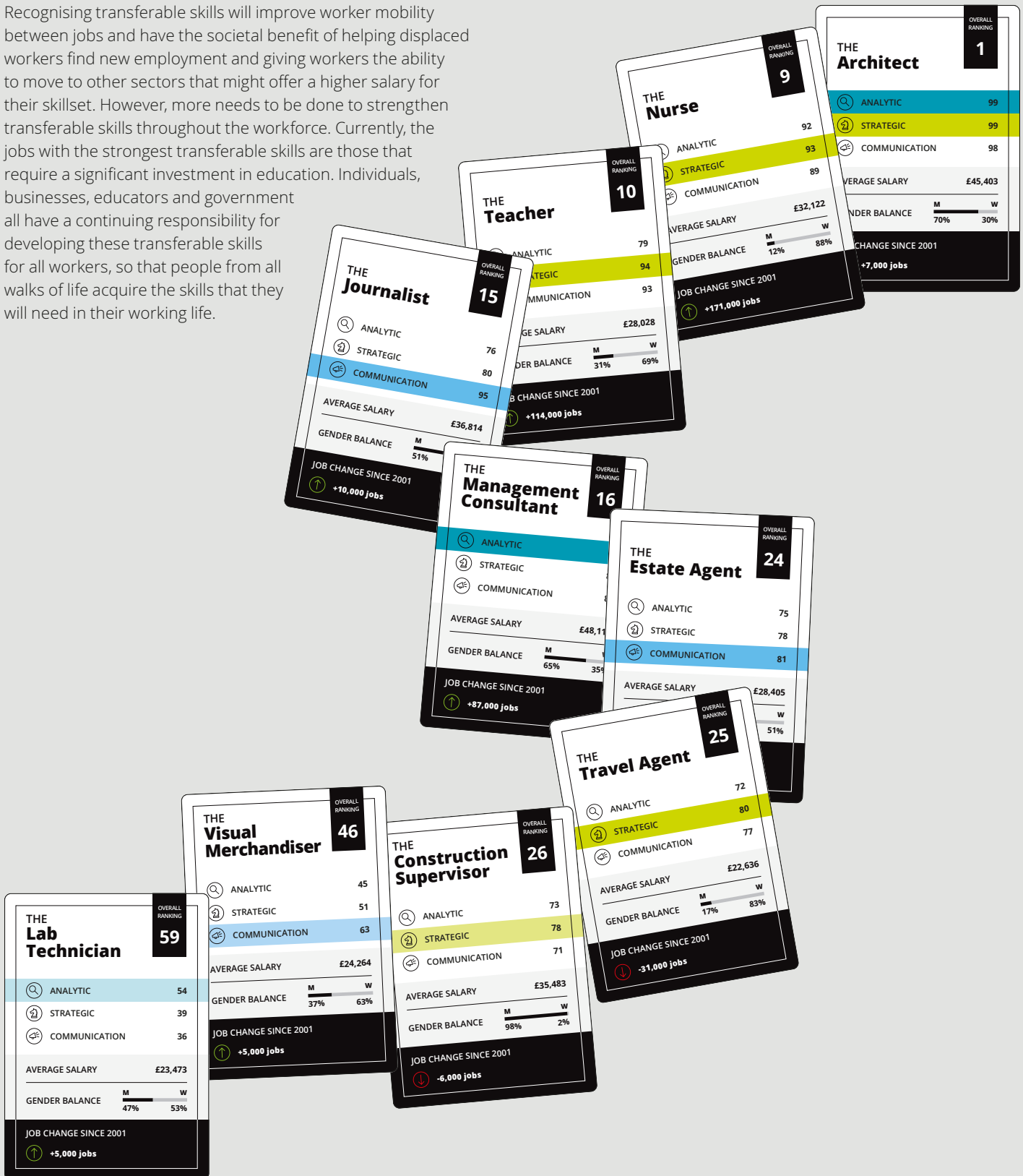
Although a similar set of skills is required in many jobs, the depth of skills needed varies considerably between occupations. For example, communication is important for both architects and care workers, but the precision and clarity with which architects communicate complicated ideas requires greater proficiency, and therefore gives them a higher rank in terms of the depth of skill.

Perhaps unsurprisingly ONS data shows that the vast majority of job-to-job moves occur when individuals move between similarly skilled jobs. Since 2001, on average 69 per cent of all job-to-job moves have been of this nature. Eighteen per cent account for moves from lower to higher skilled work.

To realise the untapped potential of transferable skills across all parts of the workforce, positive action is required from businesses, workers, government and educators, and if successful will improve worker mobility between jobs and regions, thereby unlocking significant economic and social benefits.

How to unlock transferable skills

Recognising transferable skills will improve worker mobility between jobs and have the societal benefit of helping displaced workers find new employment and giving workers the ability to move to other sectors that might offer a higher salary for their skillset. However, more needs to be done to strengthen transferable skills throughout the workforce. Currently, the jobs with the strongest transferable skills are those that require a significant investment in education. Individuals, businesses, educators and government all have a continuing responsibility for developing these transferable skills for all workers, so that people from all walks of life acquire the skills that they will need in their working life.



Challenges and opportunities for business

The combination of evolving technology and the way that individuals interact with it is changing very quickly which, in turn affects what businesses need from their workforce.

To be on the front foot businesses need to understand the many alternatives for how work gets done in their organisation. For every task that used to be performed by a human there are alternatives – joint ventures, contractors, freelancers, crowdsourcing, robots – and deciding on the right combination of talent, technology and workplace is one of the most urgent challenges facing business. However, businesses in the UK do not feel well-equipped to make these decisions: only 16 per cent of UK executives feel ready to manage a workforce with people, robots, and AI operating side by side.¹³

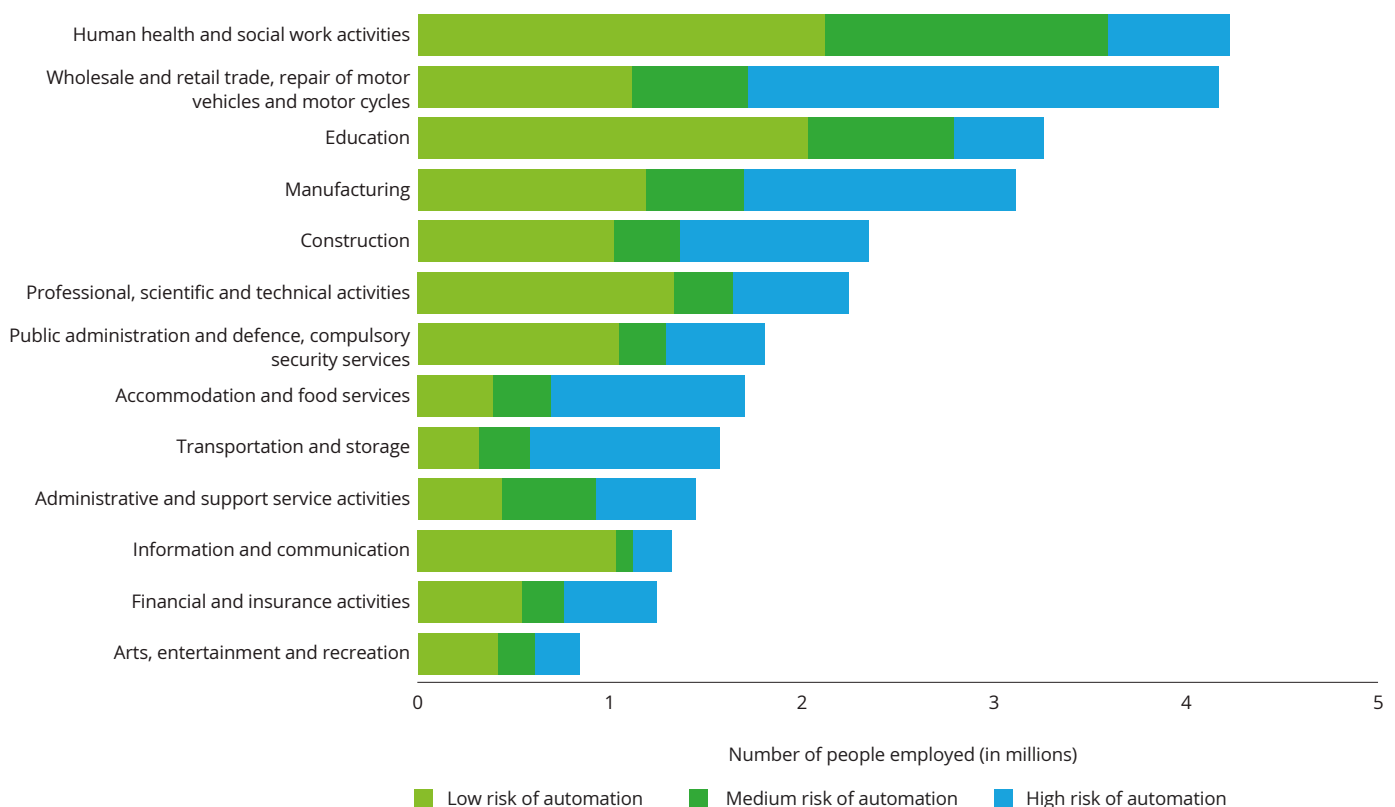
In addition, executives find it difficult to innovate inside a large organisation where performance metrics are usually more aligned to managing short-term results rather than taking a five- or ten-year view. For businesses to achieve the theoretical gains that technology promises, they need well-informed leaders, an adaptable corporate culture, a future-focused board and access to capital, so that they can invest in technology while workers need support to adapt to the changing nature of their roles.¹⁴

Developments in technology will change what employers need from their workforce – the pace and extent of these changes will differ depending on the business model and industry sector. Organisations with a business model based on efficiency and low cost might be more likely to automate to their maximum potential than those that put a premium on personal customer service. Likewise, for businesses in industries such as retail or manufacturing, in which there is a comparatively high proportion of repetitive and predictable tasks, there are likely to be more imminent and significant changes for workers.

Kate Sweeney’s perspective (right) shows how important it is for employers to think responsibly and strategically about how to adopt automation in their business. It isn’t simply a case of automating everything that can be automated, and displacing workers. Some businesses are using the introduction of technology as an opportunity to improve their customer service, or deploy workers in other priority growth areas of the business.

For the theoretical benefits of transferable skills to be realised, employers will need to change their approach to recruitment. Traditional recruitment processes, particularly for experienced workers, tend to focus on academic achievement and sector expertise, and could therefore overlook individuals who might be well-suited for the role but who have built up their skills in a different context.

Figure 2. Total employment by industry, 2016



Helping employers to recognise the relevance of skills and experience from non-traditional sources will have the benefit of enabling workers to have greater career flexibility, as well as helping businesses to fill talent gaps and bring greater diversity into the workforce. Empowering workers to move between occupations on the basis of their aptitude and proficiency in core skills would help to challenge ingrained norms such as income disparities between different sectors and gender conditioning. It might also enable workers to adjust their job to suit their chosen lifestyle, for example alternating between a job that requires the individual to be physically present in a place of work and other jobs that allow more flexible and remote working, but which require a similar skills profile.

Employers are now being more proactive in their approach to recruitment. Technology makes it possible to identify the language that will resonate with different people, so recruiters can tailor job adverts to maximise the chance of attracting desirable candidates. Employers are also able to use outreach programmes fuelled by digital tools to identify candidates who are likely to be a 'good fit' on the basis of the language they use to describe themselves on social media platforms.¹⁵



The future of work

Kate Sweeney, Partner and UK Lead for Future of Work, Deloitte

Technology is changing the nature of our workforce. Robots, AI, the crowd and gig workers now work alongside the traditional cadre of permanent employees. This diversity and new way of working requires – and enables – new ways to communicate with customers and can help businesses become more productive and extend their market presence.

So, how can businesses choose from a complex web of options, while remaining both ethical and competitive?

Businesses need to move from experimenting around the edges with innovation to full-scale transformation, using technology and new ways of working to improve productivity, and at the same time make human jobs more fulfilling. This transition should be about more than just replacing humans with machines, it can release the human workforce from repetitive, processing tasks and enable them to focus on more complex parts of their role that use uniquely human talents such as empathy, creativity and problem solving.

The best transformation strategy will be unique to each organisation, but there are a few basic questions that can help boards to focus on the right areas:

- Are there clear benefits to the organisation?
- Is the level of disruption manageable?
- Does it allow employees to focus on more added-value activity?
- Does it meet regulatory or social policy requirements?

There is often a difference between what specific tasks could be automated and whether they should be automated. Just because there is the potential to automate something does not mean it is the right decision for the organisation.

To remain competitive, investment in technology needs to be matched by investment in the workforce. Organisations need to upskill and support their workforce to work productively, and happily, alongside the robots. They will also need to think about where to focus saved time and how. This will require businesses fundamentally to revisit the way they think about talent. In future, jobs will be very different and the skills required will become obsolete ever faster as the pace of innovation continues to increase. We won't be able to rely on predefined career paths to create people who are 'ready-made' for roles in our organisations, but will need to look for people with a strong set of transferable skills as well as a confident, adaptable attitude. We also need to apply open mindedness and creativity to the way we source and develop our people – tapping into new and potentially unconventional talent pools to find individuals with strong transferable skill, and creating an environment that encourages us to never stop learning.

Preparing future workers and upskilling the existing workforce

Approximately 35 per cent of UK jobs are at high risk of automation in the next 10-20 years.¹⁶ Although this is a significant proportion, it is much lower than some other countries, such as China where 77 per cent of jobs are estimated to be at high risk of automation.¹⁷

Although these numbers sound alarming, historically advances in technology have created more jobs and wealth for people. The evidence so far is that the current technological advances will be no different. This transition towards using technology to augment human capacity will reduce, or change, dull and repetitive tasks in many jobs and might help people to achieve a better work-life balance, have more time to think creatively, and focus on more challenging tasks or decision-making.

It is important to recognise that the job landscape will look significantly different in future. A report from the World Economic Forum last year estimated that 65 per cent of children entering primary school today will work in completely new job types that don't yet exist.¹⁸

Although the future is uncertain and the pace of change is fast, low employment rates suggest that the UK labour market is adjusting to the changes that are being demanded of it. Although there has been growth in some of the lowest skill occupations, this is the exception rather than the norm. Since 2001, the 168 lowest skilled occupations in the 366 occupations we analysed have seen net displacement of almost 200,000 jobs. There were 13 million people employed in these occupations in 2016, which represents 41 per cent of overall employment. Job growth in the UK economy has been driven overwhelmingly by growth in occupations with the strongest transferable 'human' skill sets (Figure 3). Machines can't yet replace the human skills of creativity, problem solving, collaboration and empathy.

Many workers have a level of transferable skills that, in theory, could be moved to a growth occupation. However there are some low-skill workers who will require extra support to boost their core skills to a level that enables them to get a new job. In a rapidly-changing labour market, it is important to ensure that everyone gets the support they need to upskill and secure a new job if they need to. The government's National Retraining Scheme, announced in the Budget, seeks to address this challenge.¹⁹

Our community of teachers, recruiters and experienced workers felt that more needs to be done to support young people in smoothing the transition from school to the workplace. This has also been identified as a priority by government in the recently published Careers Strategy, which aims to offer every young person at least seven encounters with employers during their education, with at least one encounter taking place each year in secondary school.²⁰

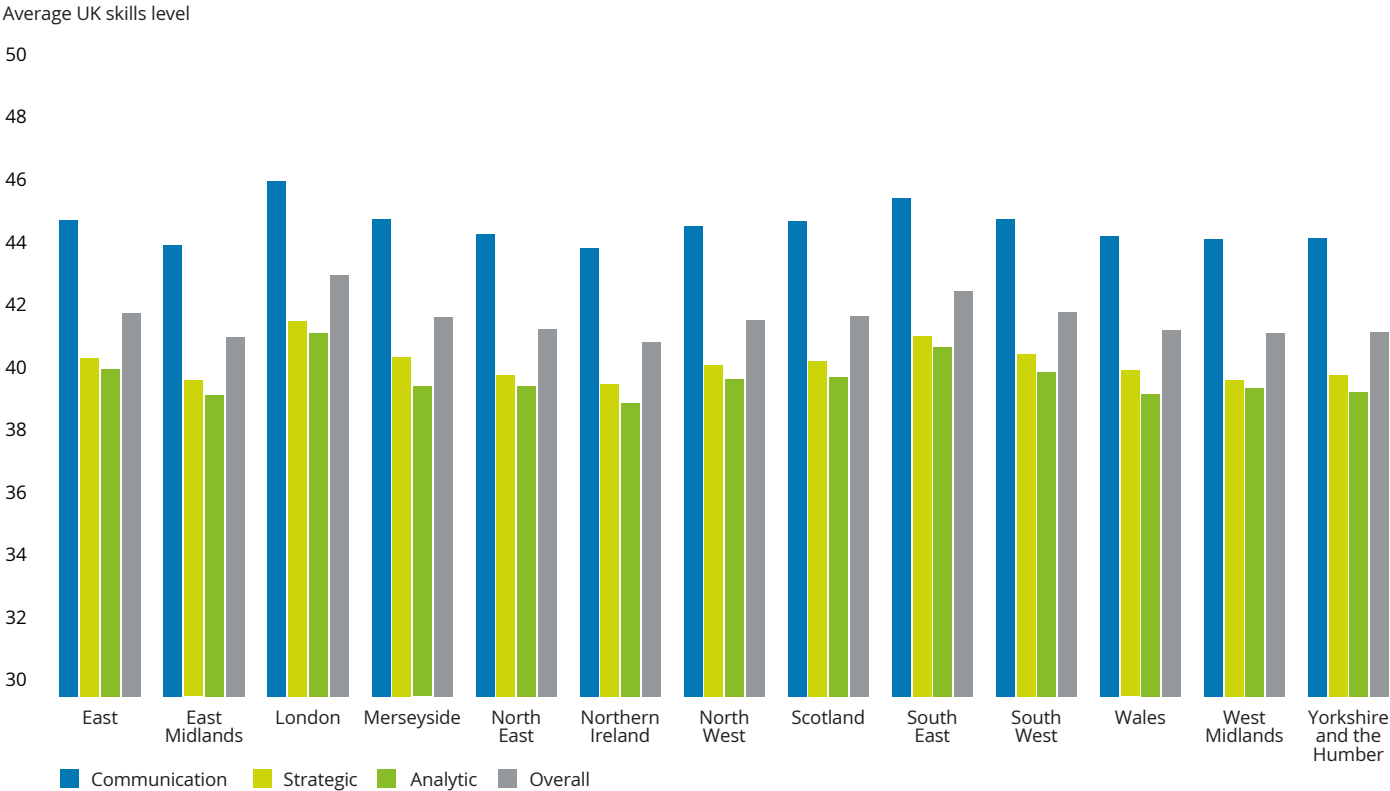
Our community had a consensus score of 91/100 when asked if extra-curricular support is needed to help young people apply communication skills to customer services. The other key skills gap identified was that young people were inadequately prepared by state education with critical thinking skills, one of the most important attributes in the UK workforce. Our community had a consensus score of 93/100 when asked about this.

Figure 3.



Source: O*NET, ONS, Deloitte analysis 2017

Figure 4. Labour force proficiency in key transferable skills



Source: O*NET, ONS, Deloitte analysis 2017

The need for higher-level skills will make lifelong learning essential and place a greater emphasis on building a strong proficiency in core skills alongside a confident and proactive mindset. For some, these requirements will come fairly easily but for others it will be a daunting challenge.

Only 20 per cent of business leaders think that school leavers and graduates are adequately equipped with the digital knowhow required in the workplace.²¹ In the past individuals were more able to compensate for weak underlying skills with knowledge of a subject or environment. In future, the number of jobs that require this type of knowledge will fall, and there will be a greater emphasis on flexibility and adaptability, and being able to draw on these transferable skills and use them effectively in different contexts.

People already in work will need support from employers to adapt to a culture of lifelong learning and flexibility as the nature of jobs is expected to change ever more rapidly over time. There is anecdotal evidence that older workers are already embracing the gig economy and embarking on second, third or even fourth careers.²²

Figure 5.

Attribute more important in future	Consensus score (0-100)
Ability to work alone	97
Customer service	95
Self-sufficiency	85
Build relationships digitally	83

Source: Remesh event, Deloitte analysis 2017

Figure 6.

Attribute less important in future	Consensus score (0-100)
Specialist skills	98
Ability to work in a team	97
Hold down regular hours	92

Source: Remesh event, Deloitte analysis 2017



Access all areas

Russell Hobby, CEO Teach First

Helping young people prepare for the world of work is a partnership between schools and business. Young people need good academic foundations – literacy and numeracy are not going out of fashion in the digital age. Yet they also need to see opportunities ahead of them, to help convince them of the value of investing time in learning new knowledge and skills. And they need good, relevant advice on how to prepare for the careers available. Businesses have huge amounts to offer in both inspiration and information.

Unfortunately opportunity and advice are not evenly distributed. Too often, where you live and the income of your family determine your chances in life. This is not fair and it is not wise: our economy will struggle without a high-skilled workforce; our social cohesion will be threatened unless everyone has a stake in the future.

At Teach First, we believe it is important for every young person to have the tools at their disposal to develop their future careers. Despite some progress on social mobility, those from low-income backgrounds still face hurdles that their wealthier peers don't when it comes to getting the careers they want.

Getting the grades opens doors to many options after school and young people from poorer communities are much less likely to get good GCSEs, even if they have shown potential. This is why at Teach First we find and develop great teachers in parts of the country where they're needed the most, to help young people reach as high in school as their talents allow and acquire the knowledge they need.

But we know that grades alone are not enough. Young people need both skills and access to opportunities to help them make a great first impression and thrive in their career. The transferable skills highlighted in this report are important, such as the ability to analyse and communicate effectively. We are proud to have developed these skills in schools around the country for over ten years with the help of Deloitte as part of their *One Million Futures* ambition.

With rapid progress in technology, today's students may face very different working practices. We must develop an education system that allows children to fulfil their potential and provides the support they need to navigate a career path through the ever-changing workplace landscape – whatever technological advances there may be.



Upskilling the older generation

Amanda Mackenzie, CEO, Business in the Community

We work with over half of the companies in the FTSE, and our members are excited about the ways in which technology can create opportunities for more flexible working practices. But they also understand that these new opportunities could have adverse consequences for the people who will need support from responsible business. Although everyone will be affected by the fourth industrial revolution, we know that some groups – such as older workers, women and those in low-skill roles – will be more at risk from automation and a lack of digital skills. In our research *The Missing Link – an ageing workforce in a digital era* we found that only 25 per cent of employees aged 50-59 and 22 per cent of those aged 60-69 felt that their employer encouraged them to take up learning and development opportunities, compared to 44 per cent of 18-39 year-olds and 32 per cent of 40-49 year-olds.

Businesses must respond by creating a culture of lifelong learning. At every stage in their careers, employees should be encouraged to engage with new technology by adapting their skills, while businesses should develop a new and flexible approach to job roles that goes beyond resource planning. This is a culture that responsible employers have been developing for many years. But, more can be done: as well as developing skills among the workforce, we think businesses need to protect and empower customers, deliver innovative products and services, and drive a transparent, inclusive and productive value chain.

We believe that, together, we can meet these challenges. As technology progresses, the aims of responsible business will remain the same, but the ways we respond may change. Through collaboration and innovation, we can make sure that the digital revolution works for everyone.

Improving worker mobility

Perhaps the most socially transformative opportunity in the current economic environment is to help workers displaced by technology to find new jobs. Jobs have been created in the UK in occupations across all skill levels. Figure 7 shows five examples of occupations that have seen a fall in the number of people employed since 2001 and the occupations that these workers can slot into with a similar level of transferable skills.

Figure 7. Opportunities for displaced workers

Declining occupations	Growth occupations
Personal assistants	Air travel assistant
Typists	Medical secretaries
Bank and Post Office clerks	Teaching assistant
Cashiers	Security guards
Mail sorters	Waiters/Waitresses

Source: O*NET, ONS, Deloitte analysis 2017

Challenging preconceptions about who has strong transferable skills could stimulate regional growth and promote awareness of disparities in salary between genders and workers with similar underlying skills but working in different occupations or sectors.

Historically, government regional policies have not been successful at solving regional disparities. Commentators cite many reasons for this, ranging from lack of commitment to monetary or fiscal policies that favour the South over other regions. One of the key factors is the ingrained and self-perpetuating cycle of behaviour that drives (or stagnates) labour mobility: The best talent is drawn to the best jobs, and the best businesses set up where the best talent is, which is where the best jobs already are.

Having a skilled and nimble workforce is important, but in order to unlock potential in the regions, there is also a need for investment in infrastructure and incentives to persuade new growth industries to set up in regions other than London and the South East, as recognised in the government's recently published Industrial Strategy.



Board level engagement with the workforce

William Touche, Vice Chairman and UK Lead for Corporate Governance, Deloitte

One of the conclusions from the *Taylor Review of Modern Working Practices* was that “the best way to achieve better work is not national regulation but responsible corporate governance, good management and strong employment relations within the organisation”.

These sentiments have been reflected in new proposals from the Financial Reporting Council following a comprehensive review of the UK Corporate Governance Code which applies to all premium listed companies. These new proposals include an additional provision to the Code which states that the board should explain in the annual report how it has engaged with the workforce and how their interests influenced the board’s decision-making.

This Code provision was announced by the government in 2017 as part of a package of reforms. The reforms are aiming to enhance transparency in how boards are meeting their duty under section 172 of the Companies Act 2006. This now widely celebrated part of the Act calls on board directors to consider wider stakeholder interests in boardroom decisions.

The updated Code puts forward three potential mechanisms for ensuring that the employee voice gets heard in the boardroom:

- appointing a director from the workforce
- setting up a formal workforce advisory panel, and/or
- designating a non-executive director with responsibility for employee engagement.

I expect that most boards will adopt a combination of the latter two as it is hard to see how a single non-executive director can engage effectively without some form of workforce advisory panel to solicit views and act as a feedback forum.

There are pros and cons with each mechanism but the key issue is developing a meaningful platform for board-level engagement from which the workforce (and other stakeholders) can observe tangible impact. Boards will need to ensure they address these areas with integrity, or run the risk of exposure if statements of intent do not ring true.

Of course, it’s not just listed companies that have a duty under s172 to consider broader stakeholders, but all limited companies. Under government proposals, larger private companies will also be required to report on how they have fulfilled their duties under s172.

I expect investment in skills development, mobility and redeployment opportunities to become important topics for employee engagement.



The versatility of veterans

Kofi Quartey, workforce development officer, Hampshire NHS Trust

After beginning my career in the military as a combat medic technician, becoming a member of the front-line medical team, I made a seemingly unexpected transition into my current role in workforce planning for the NHS. How did this happen?

During my time in Afghanistan with the military, I trained as a medic, and then became a team medic instructor, responsible for teaching military officers as well as the Afghan police and army. Even as non-commissioned officers, we received extensive leadership and management training. After a time, I was medically discharged and began to look for civilian work. I could see many opportunities to use the skills that I had learnt in the army in a business environment, but found it much more difficult to convince prospective employers of the transferability of the skills I had learned in the military.

I found a job with the NHS, where I have found the values and skills from my military career to be very relevant. I have been able to support other ex-soldiers in finding civilian employment with the NHS, and at the same time have helped the NHS to better understand the benefits of recruiting individuals who have served in the military through the 'Step into Health' programme. I am passionate about raising awareness about the range of attributes that we develop in the military, whether they be logistics planning or leadership skills.

In Hampshire, we are seeing a growing demand from recruitment managers in a number of other Trusts for ex-service personnel who are making smooth transitions into employment in the NHS and are demonstrating a strong work ethic.



Engineer, priest, fashion adviser, consultant: real life transferable skills

Ale Rebon Portillo, software testing consultant, Deloitte

On the surface my career path seems pretty unconventional – I have worked as an electronic engineer, a Catholic seminarian (trainee priest), a fashion adviser and a software consultant. Despite the seeming disconnect between these jobs, I have found the skills that I've drawn on in each of them to be highly transferable and relevant.

I graduated from a Venezuelan university with a degree in electronic engineering and then got a job as an electronic engineer at a firm that serviced large petroleum companies. Both my degree and engineering job gave me strong analytical skills. Circumstances then led me to join a seminary to train as a Catholic priest. Although this may seem a strange transition, the logic-based skills and matter-of-fact nature of my engineering job helped me to approach the new role in a logical and pragmatic way, while the complex nature of my engineering experience helped with my understanding of philosophy. During my time at the seminary I studied philosophy and theology and helped to counsel individuals in a number of different countries.

I then had a stint as a fashion adviser, which was a very different environment to any that I had worked in before. I used the

interpersonal skills from my previous role in a different context to make it a success, understanding emotions of individuals and how to respond to them.

I next joined Deloitte as a consultant in the software testing division, which again draws on expertise from all my previous employment. I believe that the hiring team had a positive view of my eclectic job history, and particularly the mix of analytical, communication and strategic skills they required. Obviously my technical experience in computing is an advantage, but the social skills I developed from my counselling training are also very useful. Working with clients requires emotional intelligence and an ability to translate it into excellent customer service.

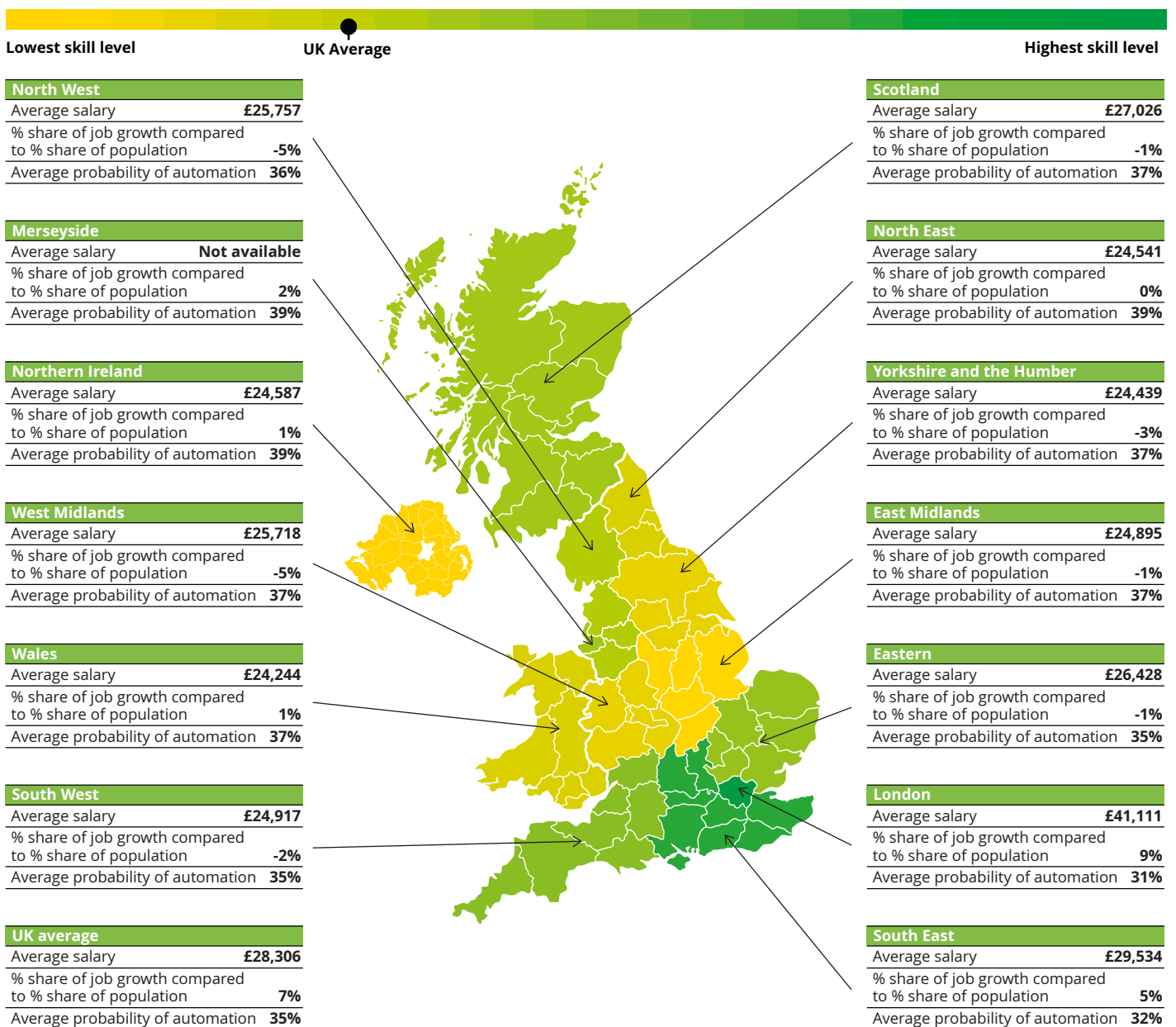
In my experience, employers have been very open-minded about hiring from unorthodox sources. In fact, having lived and worked in a number of countries, the UK stands out in this regard. Though some of my career changes were due to necessity rather than choice, my experiences have convinced me that the underlying skillset that you develop is applicable to a wide range of professions. Indeed it often helps to come at jobs from a different perspective to the traditional route.

Regional skills

There are regional differences in the level of the transferable skills that we analysed, but these are marginal. Since the average level of skills in the workforce is relatively consistent between all regions, there is reason to be optimistic about improving regional equality. However, despite the relatively small differences in transferable skills, they are nevertheless an important determinant of prosperity.

London and the South East have benefitted disproportionately from job growth and higher wages compared to other regions. This is shown by the strong correlation between salary and depth of skills (correlation coefficient 0.9) and salary and percentage share of job growth (coefficient 0.87). Explore the map in more detail on our webpage www.deloitte.co.uk/power-up.

Figure 8. Average skill level in the UK



Source: O*NET, ONS, Deloitte analysis 2017



Rebalancing our national economy

Sir Howard Bernstein, Strategic Business Adviser to Deloitte

The government's recent white paper on Industrial Strategy sets a strong direction about how some of the country's globally distinctive sectors can become stronger platforms for international trade and investment, and business growth. The broad thrust of the strategy should be welcomed and, in particular, the recognition that rebalancing our national economy is important as is a focus on each region's unique strengths and identity. One of the biggest influences on future economic success, however, will be the effectiveness of our skills policies and how they are executed. There are too many skills deficits in most of our labour markets. This report demonstrates the dynamism of technological change and its likely impact on jobs and business models. Unless we anticipate these changes reasonably quickly and adapt our systems accordingly, the mismatch between jobs and available skills will only increase. As part of this debate we should also rethink the relationship between responsibilities at national level and what is done locally.

This is key to developing strong partnerships with business so that they play the fullest part in making the system more effective locally and to ensure that the UK develops the right skills for the right place. We need a stronger and more comprehensive approach to the devolution of key responsibilities for skills. We have elected mayors in many of our great city regions who could, and should, be more empowered to take decisions. Where mayors don't exist some very strong partnerships between local authorities and business should be developed and encouraged to do more.

Devolution will become an important part of our future and is crucial to respond to some key economic challenges, one of the most important being how we equip our workforce to meet the changes ahead.



Preparing future-ready graduates

David Docherty, CEO National Centre for Universities and Business

At the recent launch of the World Economic Forum's (WEF) report on Human Capital, the Chairman, Karl Schwab noted: "...we are facing a global talent crisis. We need a new mindset and a true revolution to adapt our educational systems to the education needed for the future workforce".

We must ensure that our education system is fit for purpose for the brewing business revolution. It is paramount that our universities work with employers to help properly prepare students for this changing world, and, for their part, that businesses must step up to take the opportunities provided.

Ensuring young people have the skills for the future is one of the principal pillars of the government's recently announced Industrial Strategy. The Industrial Strategy requires a flow of high-quality graduates to power the economy. And, crucially, it points to the need to increase opportunity for all students.

Improved workforce diversity and inclusion are long-held objectives. But we are now experiencing a real shift in attitudes, a recognition from employers that cultivating diversity is not just the 'right' thing to do but vital for our future economy.

Recruiting diverse talent enables a wide mix of students to develop crucial transferable skills – breaking down some of the barriers to employment. It exposes undergraduates to a workplace culture, shaping their adaptability, communication and confidence.

But fundamentally, universities and business need to work together to produce resilient people able to cope with change and confusion. We have spent over a decade talking about work-ready graduates, now we need future-ready graduates.

It is crucial that those leaving education understand employers' changing expectations and are equipped to meet them. Connecting students with real life workplace experience is key in making that happen.

So, to support businesses, educators and students, the National Centre for Universities and Business has launched *Placer*, a work experience app and platform using technology to reduce unconscious bias, that will break down barriers to this new world and equip UK graduates with the agility and transferable skills they need for the future world of work.

Recommendations

Deloitte's latest research has examined the opportunities and the actions required to provide all workers with the support that they need to build the mindset and develop transferable skills to adapt to the changing demands of the workplace. Below we set out recommendations that business leaders, educators, policymakers and workers themselves should adopt.

Businesses will need to:

- expand their vision of workforce planning beyond a static view of jobs, structured careers and function-based departments to stimulate social mobility and career transitions
- reconsider the combinations of talent, technology and workplace that they use to accomplish the critical, non-critical, and supporting activities in the business, and prepare the existing workforce accordingly
- reform hiring practices to be open-minded and acknowledge the value of transferable skills that have been developed in a different context
- create structured support for workers transitioning from different sectors or occupations, similar to those designed for ex-military personnel by several businesses.

Government and educators will need to:

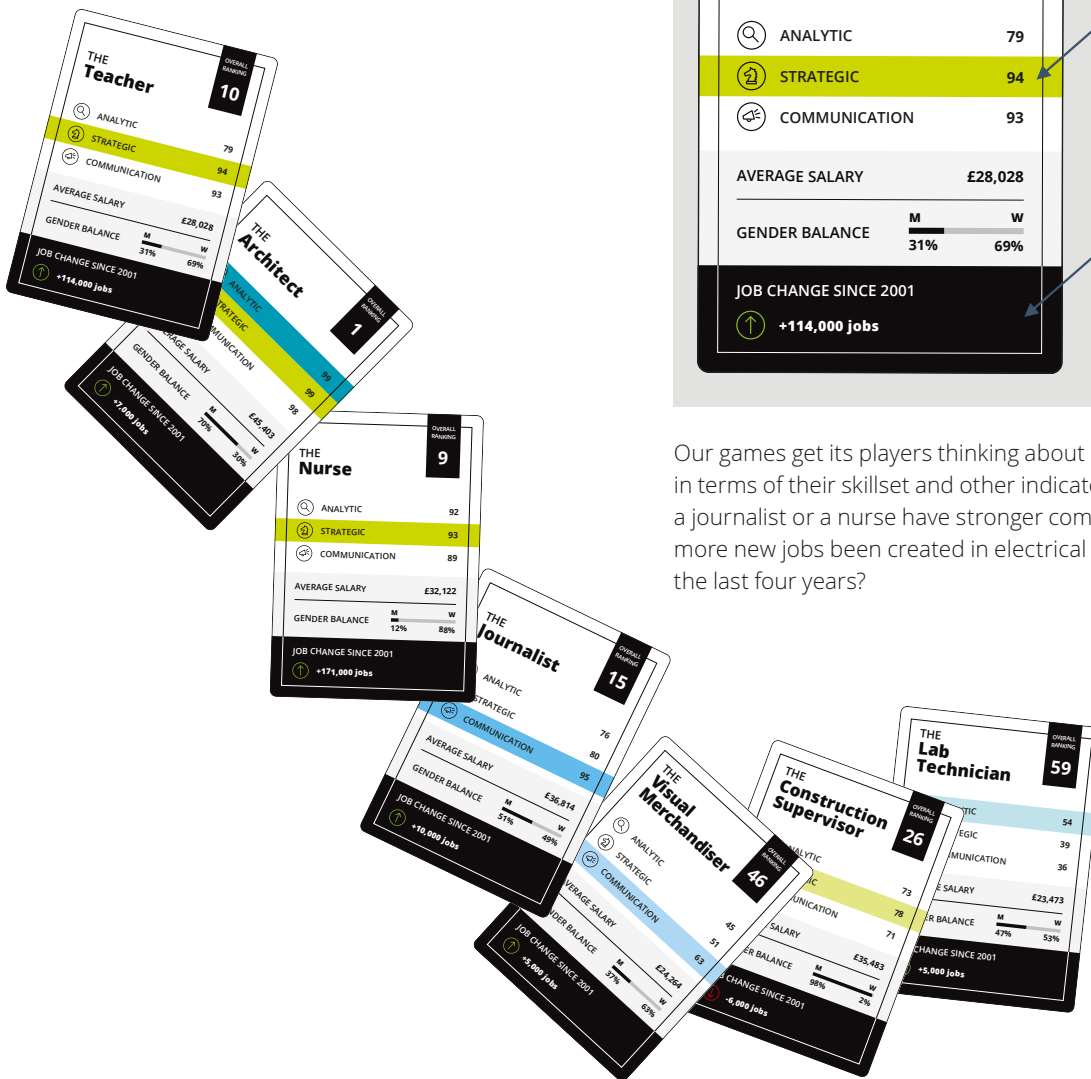
- work with businesses to meet the aims set out in the recently published Careers Strategy to familiarise young people with different places of work. Exposure to different challenges and different working environments from an early age will help young people build a strong foundation of transferable skills, as well as the confidence to apply them in many settings. This will support more young people to access a wide range of careers, and in turn, encourage more social mobility
- fulfil commitments in the Industrial Strategy to seed embryonic growth industries in different regions to stimulate high quality job growth across the UK and support these with investment in supporting infrastructure projects
- encourage businesses to adopt automation responsibly and help their workforce to upskill if possible.

Workers will need to:

- prioritise personal development around transferable skills
- commit to lifelong learning – upskilling to keep pace with demand for deeper transferable skills
- be flexible and open to using their skills in different ways throughout their working lives
- be willing to relocate to secure a new job.

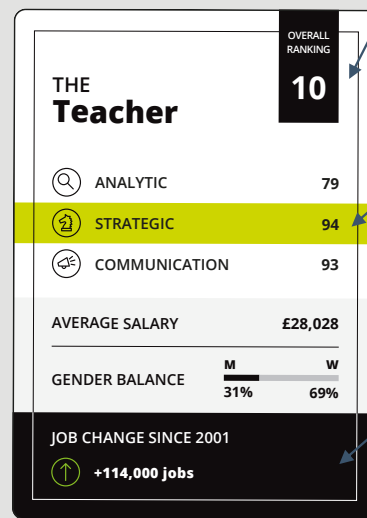
Let's play: The Power Up Games

We have designed games to enable players to compare different occupations in terms of their depth of core transferable skills, as well as their gender balance, salary and change in number of jobs since 2001. Through the game, we aim to help people discover insight from the occupation data set as a result of their own exploration, to foster a deeper understanding of the transferability of skills and to understand how businesses, educators and individuals can use these skills to improve flexibility and prepare for the future of work.



What we did: writing the rules

We gave each of the 50 occupations an overall ranking out of 100 to measure them against the other occupations in terms of the depth of the core skills exercised in their profession.



We identified which of the core skills is dominant for each occupation.

We highlighted the average salary, gender balance and change in the number of jobs since 2001 for each occupation.

Our games get its players thinking about how occupations rank in terms of their skillset and other indicators. For example, does a journalist or a nurse have stronger communication skills? Have more new jobs been created in electrical engineering or in HR over the last four years?

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