

About the author

Daniel Burke is a Partner in PwC's Strategy& Government and Health Industries team. He leads our strategy work with major central government departments. He is currently supporting a number of Whitehall departments on preparations for EU Exit.

Dan is passionate about reforming public services to help deliver better outcomes for people. He specialises in working with senior leaders to create consensus around transforming the way they work and deliver services, particularly where organisations are required to collaborate across traditional boundaries as a result of regulatory change or financial pressure.

Dan joined PwC from the Local Government Association where he worked as a senior public affairs and policy officer. Prior to this, he worked for the Department for Education as a civil servant.



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Making the UK fairer: How we work

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New technologies such as automation and artificial intelligence are starting to have a massive impact on workplaces, meaning organisations and individuals must quickly upskill in order to keep pace. This change is hitting lower-skilled workers hardest, exacerbating an existing fairness gap between them and higher-skilled workers who are better-equipped to adapt and embrace new technologies.

Everyone should have access to a fulfilling role and a decent standard of living and there's agreement across the political spectrum on the importance of upskilling to facilitate this. While government has a key convening role (in addition to upskilling its own workforce), this is not a job for government alone. Businesses, trade organisations and the government must collaborate to find solutions that work for everyone - and this needs to happen urgently.

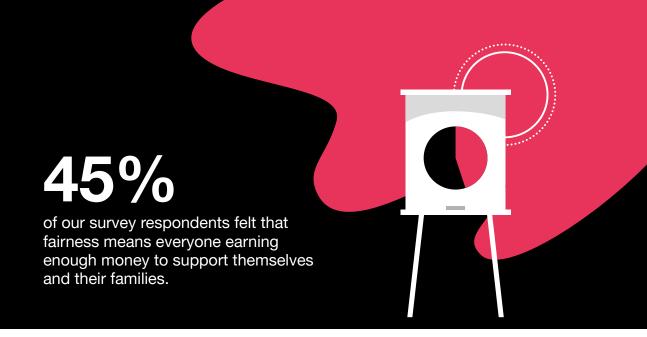
PwC has made its own firm commitments to upskilling and social mobility and we are working with other organisations to make these a reality. In this paper, we've outlined how we think similar collaborations could pave the way for a fairer future in how we

work in the UK."



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Quentin Cole



While political debate in the UK has been dominated by Brexit, PwC has been thinking about the importance of fairness to our way of life, policy-making and public services.

As part of our Future of Government programme, we commissioned a major national survey asking the question:

How can the government transform for a fairer future for the UK?¹

One clear priority which has emerged from this work is the importance to a fair society of everyone having access to good jobs and being able to earn a decent living. Almost half of our survey respondents (45%) felt that fairness means everyone earning enough money to support themselves and their families.

We have identified the following as one of PwC's five 'fairness tests',² which we think should be applied to major spending decisions, future budgets and the spending review:

"Help people earn a living, find meaning and purpose in work and prepare for the challenges of globalisation."

But for some this aspiration is being threatened by the impact of automation and the digital revolution. Without thoughtful and bold action by the government and business working together, automation stands to exacerbate current divides in society. Those with the right skills will reap the benefits of globalisation and technological advances. Those who do not adapt will lose out and continue to suffer from stagnant wage growth and insecure jobs.

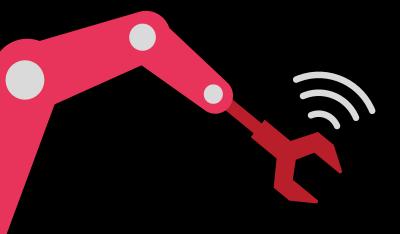
The challenge facing policy makers is to help society use technological innovation to create more jobs than it displaces – jobs that are better paid, more rewarding and more fulfilling. Then the government and businesses must make sure people are equipped with the skills they need to access the new world of work and to share in the benefits it will present.

This paper explores the public's views on the impact of automation on work, considers who is responsible for upskilling for the jobs of the future, and proposes that the government and businesses should collaborate in new ways to make the UK fairer in terms of jobs and skills.

There's clear evidence highlighting the important role the education system must play when it comes to developing the talent of the future. As such, we recognise the importance of all levels of education in preparing new entrants to the labour force. For the purpose of our survey and this paper, we've chosen to focus on those of working age.

Making the UK Fairer (Strategy&, September 2019), (https://www.pwc.co.uk/futureofgovernment)

² See our previous report: Making the UK Fairer (Strategy&, September 2019), (https://www.pwc.co.uk/futureofgovernment)



The changing world of work

Automation and digitisation are presenting what some see as an existential threat to today's occupations – creating new jobs, changing others, and making some obsolete.

This is having a major impact on the skills and attributes that people need in order to access good, well-paying work in the future.

Public awareness of these rapidly developing changes is starting to build.

Our survey found that:

36%

A third (36%) of workers think that their job will be significantly impacted by automation in the next 10 years.

46%

Almost half (46%) think that their job will change in 10 years due to technology.

40%

More respondents see risks (40%) than opportunities (21%) arising from automation, with 38% feeling concerned and 26% feeling anxious.

The UK is noticeably more anxious than other countries about the challenges presented by automation. In contrast to the UK's outlook, 50% of respondents in a recent PwC global survey saw more opportunities than risks arising from automation.

Mind the gaps

On a national level, the findings seem encouraging. They suggest that the population is broadly aware of the ways in which automation might shape existing jobs, and that they are prepared to learn new skills as a result of that awareness. But analysing the data in more detail reveals a series of what we understand to be demographic fairness gaps.

These include:



Awareness gaps

A considerable number of people don't know how much jobs are changing.



Aspiration gaps

People who are low-skilled and from a poorer background tended to not be as willing as skilled professionals to upskill.



Availability gaps

Workers without education beyond school age are generally offered fewer opportunities to learn new skills at work than university graduates.

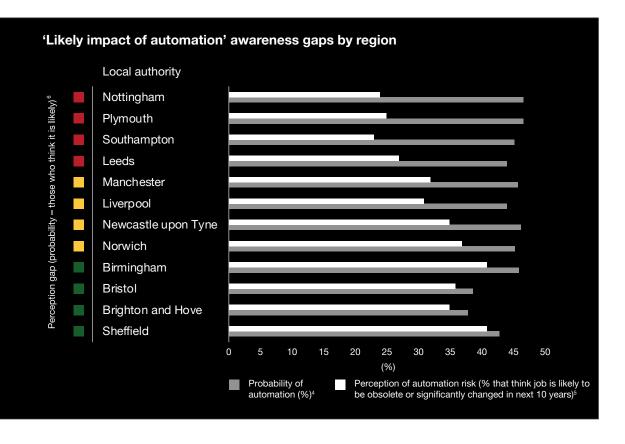




Awareness gaps

There are clear gaps in the general level of understanding of the impact of automation and the corresponding readiness to do something about it. For example, young people in cities as well as black and minority ethnic groups appear to be more excited about the prospect of automation and learning new skills than the average UK citizen. In contrast, those in low paying jobs are least ready and willing to reskill (see Group B on page 10).

There are some striking regional differences in the data on perceptions, which become particularly important when set alongside what we know about the likelihood of job automation in the regions of the UK. The table below shows the comparison between the 'probability of job automation' as assessed by the Office for National Statistics (ONS), and the levels of awareness we found in our survey.³



This analysis shows that there are stark regional differences in the extent to which people are aware of the likely impact of automation on their local labour markets. Expressed in terms of a 'perception gap', Bristol, Brighton, Sheffield and Birmingham appear to have higher levels of awareness; while Nottingham, Plymouth, Southampton and Leeds may face more significant challenges in preparing people for the change that is about to come.

³ ONS data on job automation is currently only available for England. Further PwC analysis to be published in 2020 will look at the whole of the UK.

⁴ ONS: Probability of automation in England 2011 and 2017, (https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/articles/theprobabilityofautomationinengland/2011and2017)

⁵ Making the UK Fairer (Strategy&, September 2019), (https://www.pwc.co.uk/futureofgovernment)

⁶ Perception gap rating key: Red = >20%; Amber = 10-20%; Green = <10%



Availability gaps

We asked our non-retired respondents what action they would be prepared to take to learn new skills if they considered their job to be threatened by automation. The majority said that they would be prepared to take a new qualification online (73%) or in person (71%), or attend evening classes online (69%) or in person (66%).

But, our research also shows that, while workers want to upskill, businesses are not necessarily offering the opportunities to do so, particularly when it comes to unskilled workers. A recent global PwC survey on upskilling found that 59% of UK workers without education beyond school age were offered no opportunities by their employers compared with 44% of UK university graduates.



Aspiration gaps

Our research shows that those who agree with the statement 'Britain treats me unfairly', also tend to have mostly negative attitudes towards the impact of automation on the world of work (see Group B on page 10). They are also likely to be the least ready or willing to upskill in response to automation, and they tend to feel that the government is most responsible for helping them to navigate the future. People in this group already feel left behind by globalisation.

These are the people whose family members are most likely to have suffered during past structural changes to the economy, such as the demise of heavy industries, including coal mining and shipbuilding, and the boom in financial services in the South East during the 20th century. If nothing is done to help them catch up through upskilling, this group will grow and their situation will be exacerbated. In contrast, those who agree with the statement 'Britain treats me fairly' (see Group A on page 10) are more willing to embrace change and act on it.

From a fairness perspective, the aspiration gap is perhaps of most concern, as it affects those least able to help themselves; those who are disadvantaged or vulnerable and who seem to be least aware of the impact of automation on their jobs and their prospects. Further impacts could also be felt if there are delays between the disruption of old jobs and the creation of new ones, or jobs are created in new locations, and those affected are left with fewer work options in their local area.

The government and businesses need to address this head on in creating policy proposals for the future of skills and work, which we begin to explore next.

Understanding fairness – it's in the eye of the beholder⁷

Asking questions about fairness throws into stark relief the emergence of two distinct groups of our survey respondents who have completely different experiences of life:



14%

Group A: UK treats me fairly Young, male, diverse, urban, high income, senior roles

Group A can be characterised as generally being optimistic, confident in outlook, and comfortable with technological advancement and global change. Those in Group A are more likely to think that their job will be made obsolete or significantly change due to automation in the next 10 years (68% compared to 36% overall), but they are also more hopeful (18% compared to 10%),

excited (23% compared to 10%) and interested (23% compared to 17%) about the prospect of 30% of jobs being automated by 2030.



11%

Group B: UK treats me poor Older, northern, lower income, manual workers, white British

In contrast, Group B comprises those who feel that they are being left behind by globalisation. Most of this group feel that automation presents more risks than opportunities (54% of Group B compared to 40% overall). More also feel concerned (53% compared to 38%), angry (18% compared to 8%) and anxious (40% compared to 26%) over the prospect of 30% of jobs being automated by 2030.

Who's responsible for upskilling the UK?

While there is no doubt that successfully upskilling for jobs of the future relies on individual awareness and willingness to engage, most of our survey respondents when asked to identify which organisations were most responsible for leading this national transition, included three main groups: national government (63%), business (60%) and local/regional government (57%).

These organisations do indeed play an important role in facilitating relevant training and are starting to better understand and engage with the importance of upskilling their workforces. But they cannot do it on their own. During our research, we explored a range of different policy solutions to address the challenges around the future world of work. These included legislating to limit the advance of technological change and levying additional taxes on the big tech firms. While such policies found some support, our survey respondents overwhelmingly favoured action to help people develop new skills and close the capability gaps needed to access new jobs in the digital economy.

"This is more complex as we all have to take some personal responsibility here if we are to have satisfying and successful working lives. Government can drive it and fund it to a degree, but all those affected whether workers or employers have a part to play."

Participant in the Future of Government pop-up community



Call to action 1: Government needs to take a lead

The government, at different levels, already has in place a number of initiatives to address the opportunities and threats of automation.

For example, there is the National Retraining Scheme and a system of Modern Apprenticeships. In England, Local Enterprise Partnerships (LEP) are developing their own local industrial strategies which set out the sectors in which their area is strong and those which can be developed further.⁸

The government as a whole can also play a direct role through upskilling its own workforce – as a major employer. Indeed, explaining the impact of automation on public sector jobs⁹ and developing an upskilling programme for the civil service and the wider public sector workforce

would make the government a powerful demonstrator of the role that upskilling can play in delivering fairness. This topic is being explored further through our wider Future of Government programme.

But some bold thinking and urgency is required. We recommend that government commits to measurably closing the skills gap over the course of the next parliament. A framework could be based around the five tests for fairness that we set out in our previous report. Some illustrative examples are shown in Table 1.

Table 1: Upskilling through our five tests for fairness

Test

Provide for fundamental needs, prioritising the vulnerable and those in greatest need

Implications

Design and launch a national 'Upskilling UK' programme which prioritises investment in industries that are most likely to be impacted by automation over the next five years.

This programme should be proactive rather than reactive. Learning from places like Denmark and Luxembourg, it should anticipate where and how changes to the world of work will impact most and invest ahead of the transformation. It should seek to address the 'availability gap' discussed on page 9, so those willing to upskill are offered opportunities to do so.

The government should commit to a new target, seizing the opportunity presented by automation to close the skills gap between socio-economic groups and the segments of society we have identified in our fairness research.

⁸ Local Industrial Strategies: policy prospectus, October 2018, (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/744544/local-industrial-strategies-policy-prospectus.pdf)

⁹ Our survey respondents from the public sector indicated there is less concern about the impact of automation on their jobs: in public admin/defence, 41% of respondents felt their job was at risk; in education, 32%; and in health, 29%.

| | Test | Implications |
|---|--|--|
| 2 | Help people earn a decent living and prepare them for the future world of work | While the responsibility to upskill the workforce of the private sector primarily falls to employers, trade unions and other business organisations, the government should consider supporting them by ensuring that transitional funding is available to help small businesses cover the costs of training, potentially subsidising costs for employers that would struggle to do so without support. |
| | | A new upskilling fund could potentially be created from a reformed employer apprenticeship levy and redeployment of regional assistance funding currently allocated by the EU. |
| 3 | Close the opportunity gap that exists between places | As a complement to the government's existing Opportunity Areas programme, which aims to boost social mobility by removing obstacles that could stop people from achieving their potential, consideration should also be given to creating a number of 'Upskilling Zones' around the UK. |
| | | These would be in regions that are most prone to being negatively impacted by automation and related changes. The first tranche of the new Upskilling Fund should be deployed to these areas so that new approaches can be tested, refined and accelerated. |
| 4 | Give individuals more control over the services they access | Government and business should invite the emerging govtech sector to produce innovative ideas for making it easier for individuals to access learning opportunities in ways which suit them (online, mobile learning, using Al to make it bespoke to the learner). The govtech catalyst fund should make this a priority area for future investment. |
| 5 | Empower communities to shape the places in which they live | All local leaders and LEPs should assess the impact of automation in the places they are responsible for and develop local and regional upskilling programmes. |
| | | These programmes should be aligned with local industrial strategies, and agreements between central and local government about devolution. |
| | | |

Call to action 2: Business needs to step up

Our research shows the public generally doesn't believe that businesses are doing enough to upskill their own workforces. Indeed, the UK appears to be falling behind internationally.

Upskilling Hopes and Fears

Our recent survey of more than 22,000 people in 11 countries indicates that almost three quarters (73%) of workers would take the opportunity to better understand or use technology if they were given the opportunity by their employer.¹⁰

In the UK, over half (54%) of adults and more than two thirds (67%) of 18-34 year olds say that they are ready to learn new skills or completely retrain in order to improve future employability. Only 11% say they are not. But despite the appetite to upskill, UK workers are given the fewest opportunities by employers, with over half (51%) saying that they have not been offered any

opportunities at all. Those workers without education beyond school are getting fewer opportunities to learn new skills (59% are offered no opportunities by their employers compared with 44% of university graduates).

The research found that UK workers – followed by their Australian counterparts – were offered the fewest opportunities to upskill and, consequently, only half said they feel well-equipped to use new technologies that are being introduced into the workplace. The countries best at upskilling are also the countries where workers feel best equipped to use new technologies: India, South Africa and China.

67%

of 18-34 year olds say they are ready to learn new skills or completely retrain in order to improve future employability.

Businesses should take the lead role in upskilling their own workforces. Critically, for this to work, businesses first need to be able to understand and decide how they want to use technology to make their organisations more productive. They should then work out what skills they will need in the future to be successful: (i) employers should conduct an upskilling audit of their workforces to identify those at risk of automation, (ii) workforce progression strategies should be put in place by major employers and (iii) employers should consider how to fund workers identified as being at risk of displacement to acquire new skills. Some businesses will

need external help and this may take the form of incentives, tax breaks and subsidies. The government can also help businesses connect on this agenda through innovation hubs and technology partnerships.¹¹

One innovative example, which could provide a template for future government-business collaboration on upskilling in the UK, is being delivered in Luxembourg. Read more about this model on page 15. You can also read more about PwC's commitment to upskilling on page 17.

¹⁰ New world. New skills. PwC global upskilling survey, (https://www.pwc.com/gx/en/issues/upskilling.html)

¹¹ Corporate Britain has to work harder to restore trust, (https://www.telegraph.co.uk/business/2019/05/08/corporate-britain-has-work-harder-restore-trust/)



Upskilling the workforce: the need for new collaborations

The Luxembourg model

In 2018, the Government of Luxembourg, under the co-leadership of the Ministries of Labour and Economy, joined forces with trade unions, trade associations and business to form the Luxembourg Digital Skills Bridge initiative.

The goal was to create a broad coalition of actors to help workers learn new skills that employers are looking for. There was a particular focus on upskilling people at risk of losing their jobs because of automation, and to provide them with the opportunity to gain technical and digital skills that would allow them to take on new roles.

The idea was that the approach would save money for the government in terms of unemployment costs by investing in building a cluster of digitally-oriented industries, and developing the relevant skills in workers who might otherwise have been laid off.

The initiative assembled a group of digital apps and tools for all participants – the government, unions and businesses – to share. Companies agreed to foster long-term employability, even if that meant investing in employees who might eventually move to other companies.

Mid-way through the initiative, nine out of ten workers were expected to take up new roles in the company in which they were employed. The original objective was to have 65% of the participants stay in the same company taking up new functions. The initiative covered 90% percent of an employee's salary during the training period, and a portion of the company's training costs.

In the Luxembourg model, the government provides a forum through which the leaders of businesses, trade associations and trade unions can collaborate to deliver a pipeline of talent trained in the skills needed by employers in response to the risk of jobs lost through automation. The government's role is to be an enabler and broker, but it is employers who must take the lead when it comes role to upskilling their workforces.

This proactive model clearly illustrates the kinds of collaborations that are needed to deliver on societal goals of fairness at a time when technological change is threatening the structure of society – in this case the labour force – in destabilising ways.

Conclusion

Many of the skills we use today are at risk of becoming redundant in light of the innovations of tomorrow.

Upskilling should be prioritised as a way of equipping workers and empowering them to have access to fulfilling jobs that also provide a comfortable standard of living.

It's imperative that businesses, trade unions and the government understand the importance of collaboration. Each institution has its own role to play in shaping the workforce of the future, but none will be successful if they operate in isolation.

Upskilling means helping individuals to become agile and multidisciplinary, but for it to yield real benefits, it must be tailored and specific. Different demographics, regions, industries and organisations will have different needs when it comes to upskilling. A one-size-fits-all approach simply won't cut it.

To be truly successful, upskilling should allow individuals to take full advantage of automation and innovation and to dedicate their time and energy to roles in which they can add true value.

An empowered individual is more likely to be an engaged individual. That, in turn, will improve the perception of fairness across communities. People who consider themselves to be treated fairly are also more likely to be ambitious and productive. That will have a positive impact on the broader economy and the UK's competitiveness in an international context.



PwC's commitment

Upskilling

PwC has launched a US\$3 billion, four-year commitment, the New world, New skills initiative, to upskill the entire global network of 276,000 people across 157 territories. The goal is to impact millions of people through PwC's own network but also through clients and the work of the firm in the communities in which it operates.

Employees of all levels will learn specialist skills in data analytics, robotics, process automation and Al. Also, the firm will continue to help clients develop comprehensive solutions to their own skills and technology challenges.12

4 year

commitment

276,000

people

\$3 billion

investment

157

territories

Social mobility

Millions of people don't have a chance to reach their potential simply because they lack access to opportunities and networks due to circumstances outside their control. PwC is taking part in research that explores how we can work with others to further advance social mobility. Partnering with other employers and organisations that help the business community to address this important issue, is central to our continued work in this area. 13

83,000 hours

PwC time spent volunteering in the last 12 months

30,000

commumity beneficiaries

135

It's important to

recognise that large employers have both the

ability and the responsibility

to encourage their colleagues

and employees to be a force

for good in the

community."

people employed in the Bradford Opportunity Area

40

social enterprises supplying PwC with products and services territories

¹² New world. New skills. PwC global upskilling survey, (https://www.pwc.com/gx/en/issues/upskilling.html)

¹³ Building relationships, creating value. The Social Mobility Pledge, PwC Report, (https://issuu.com/socialmobilitypledge/docs/pwc_ report_28_10_8pm-2?fr=sYzlyNDQ3MTcxNw)

Read more







Good Growth for Cities measures the performance of the UK's largest cities against 10 indicators that the public think are most important when it comes to economic wellbeing. Jobs, income, skills and health are the most important factors in the eyes of the public, alongside housing, transport, income distribution, worklife balance, business start-ups and the environment.

www.pwc.co.uk/goodgrowth

A steering group oversaw this research and was key to providing critical challenge to the thought process



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We are grateful to everyone we have met and discussed this research programme with – from members of the public, to politicians, senior local and central government officials and our own partners and staff.

We would particularly like to thank all the members of the steering group for their time, energy and advice throughout this process. We would remind readers that the conclusions reached and views expressed, and of course any errors in the report, are those of the authors alone.



Strategy&

Strategy& is a global strategy consulting business uniquely positioned to help deliver your best future: one that is built on differentiation from the inside out and tailored exactly to you. As part of PwC, every day we're building the winning systems that are at the heart of growth. We combine our powerful foresight with this tangible know-how, technology, and scale to help you create a better, more transformative strategy from day one.

As the only at-scale strategy business that's part of a global professional services network, we embed our strategy capabilities with frontline teams across PwC to show you where you need to go, the choices you'll need to make to get there, and how to get it right.

The result is an authentic strategy process powerful enough to capture possibility, while pragmatic enough to ensure effective delivery. It's the strategy that gets an organization through the changes of today and drives results that redefine tomorrow. It's the strategy that turns vision into reality. It's strategy, made real.

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