

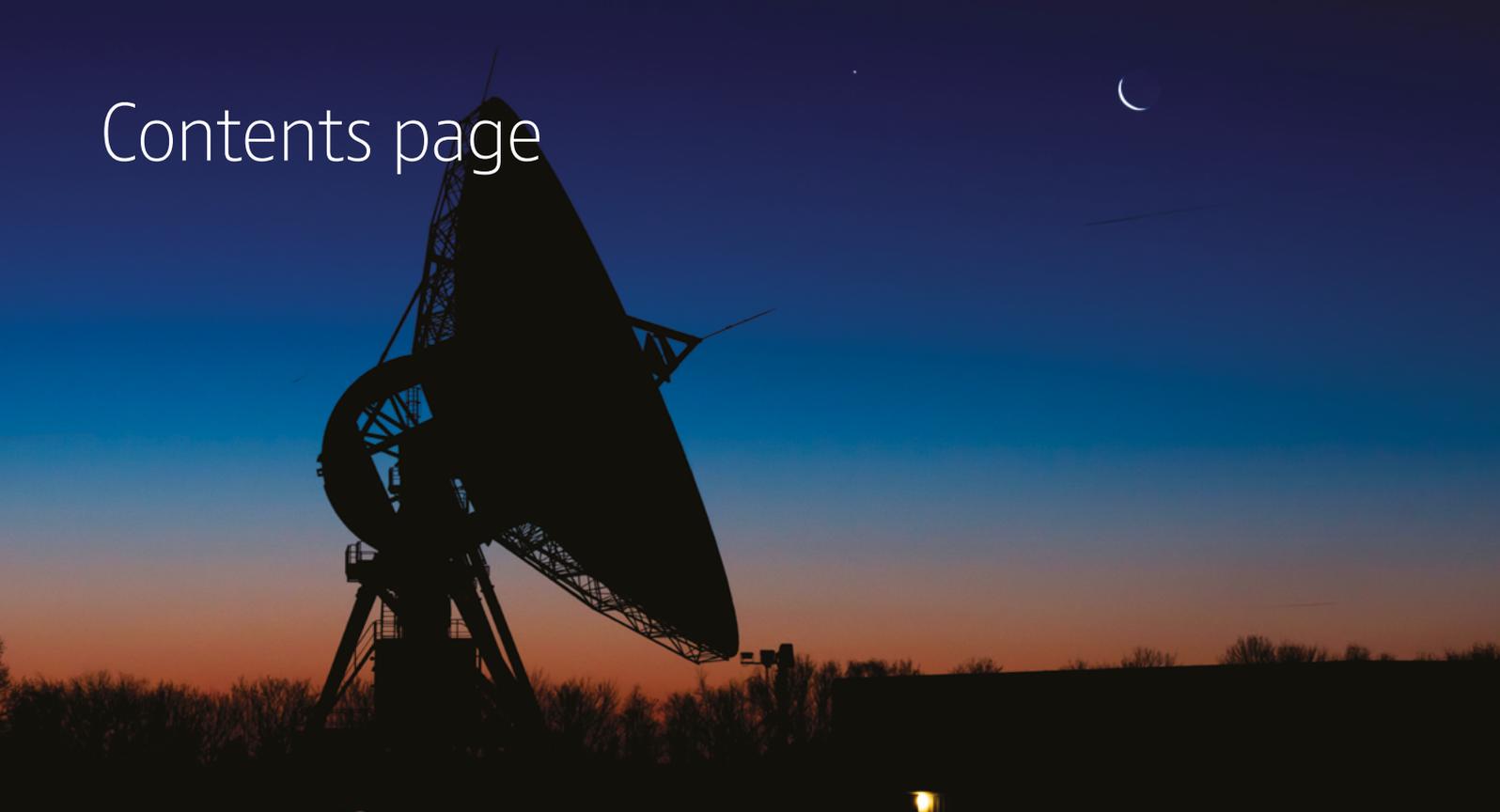


The Future Workplace

How is disruptive technology influencing business decision makers?



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Executive summary



Colm O'Neill

Managing Director -
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Much of the speculation and debate about the impact of disruptive new technologies in the workplace, including artificial intelligence (AI) and automation, has focused on the number of jobs that could be replaced by machines, and subsequently the loss of human jobs.

Research from Oxford University and Deloitte predicts that 35 per cent of UK jobs are at risk of being lost to automation within the next two decades.¹ Likewise, PricewaterhouseCoopers (PWC) predicts that robotics and artificial intelligence could affect almost a third of UK jobs by 2030.² The Bank of England Governor, Mark Carney, has made his feelings towards AI clear; last December, he stated that this advancing technological tide will, “destroy jobs and livelihoods well before new ones emerge.”

The ‘Fourth Industrial Revolution’, is frequently described as a wave of rapid technological change that will displace human workers and reassign their jobs to robo-advisors and advanced algorithms.

In light of this ongoing public debate, we wanted to understand how IT decision makers feel about technologies like AI, automation, and big data analysis. What do they think are the specific risks and the likely benefits of introducing them? And how are AI and automation already being used in UK workplaces?

We surveyed 1,501 key IT decision makers from organisations of all sizes across the UK. A further 20 IT decision-makers were also interviewed in-depth as part of the qualitative arm of this research. Their quotes can be found throughout this document. The result is this report, which looks at how organisations are embracing the technologies at the heart of the Fourth Industrial Revolution.

Our research examined the differences in adoption of disruptive technologies between organisations operating in the public and private sectors. We found a significant amount of IT decision makers in both sectors are gearing up to invest in disruptive technologies in the coming years.

Just under a third of IT decision makers are planning to implement AI and automation tools in the next two years, and as many as a third predict that these new technologies will in fact create more jobs.

However, a similar number fear that the biggest risk resulting from the introduction of AI and automation is fewer jobs in their organisation. This research has demonstrated that not all sectors will be impacted equally by this revolution and that there is a divide surrounding AI and automation.

There are also concerns around implementing these technologies. The potential for cyber security breaches reinforces the increasing need for businesses to have a robust security solution in place. The cost and expertise required to successfully implement them may prove too heavy a burden on smaller organisations.

With this in mind, we delved into the differences between SMEs and large enterprises to examine how companies are using technology. With ever-increasing customer expectations and employee demands, technology can help businesses stay ahead of their competitors, increase agility, and encourage innovation.

No business or sector is immune from disruption. But what’s great is that organisations both big and small, across public and private sector are embracing rather than shying away from the evolving technology landscape. This can only be good news for the UK economy as a whole.

About the research



About BT

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Research methodology

Opinium surveyed 1,501 IT decision makers online between 1st and 13th March 2017. Respondents were asked to select the sector their organisation operates in. 1,090 said the Private Sector, 370 said the Public Sector and 41 said the Third Sector.

Respondents' organisations ranged in size by number of employees:

SMEs (0-249): 569

Midmarket (250-1,000): 523

Enterprise (1,000+): 409

Opinium also conducted in-depth qualitative research online with 20 IT decision makers between 28th February and 6th March.

This forms the basis for the quotes throughout the report.

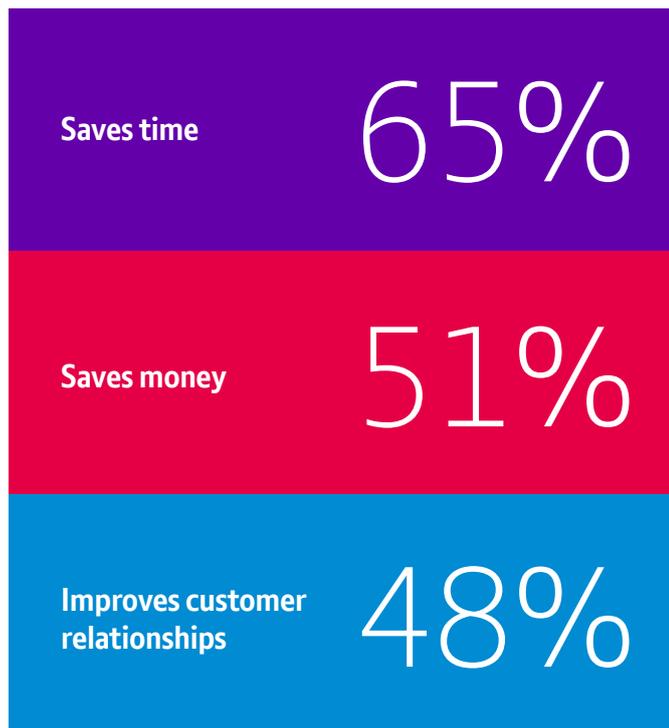
Our future workplace: what role will AI and automation play?

Over one third of IT decision makers are already using some form of AI and/or automation technology in their organisations today.

The vast majority of these (97%) say they are already seeing the benefits. There is an optimism surrounding these technologies and the benefits they can bring to business processes. Surprisingly, there is also a belief that they may lead to creation of new jobs.

However this was balanced by equal numbers of people who see these technologies as a risk that could lead to a loss of jobs within their organisation.

Organisations using AI and automation say the benefits are:



Within our results, we saw opinions on AI and automation sitting within two categories: disruptive technology being seen as a boost to business efficiency, and concerns over the effects of implementing them.



Of the one in three IT decision makers who plan to invest in AI and automation in the next two years, **62 per cent are optimistic** that this technology will make their organisations more effective.



Of the organisations that are already using AI and automation, **63 per cent** find them to be **'very beneficial'** to their organisations.

“Automation has helped us to achieve more, be more focused, more productive and become less bogged down with paperwork and manual tasks.”

—
Medium sized consultancy

The AI divide: a driver of growth or destruction?

Despite a large amount of optimism surrounding AI and automation, 1 in 3 organisations surveyed highlighted AI and automation as the technologies that could bring the most risk to their organisation.

“I believe robots and technology can only “totally” take over routine, repetitive and one dimensional jobs. The areas that require more complex thought processes’ will still remain in the realms of humans, albeit with increasing sophistication in ways and means of delivery.”

—
Large manufacturing company

1 in 3

IT decision makers believe AI and automation could lead to fewer jobs in their organisation.

So how do we reconcile the fact that equal numbers of IT decision makers told us they believe AI and automation will create jobs and destroy them? The reality is that both perceptions may in fact turn out to be right, as it will affect sectors in different ways. While automation is likely to replace manual and repetitive jobs, there will always be roles requiring the empathy, business decision making or creative intelligence of real people.

Modern technology: implementation risks

Alongside the implications of disruptive technology on business infrastructure and workers, safeguarding these new devices is a key area of concern for IT decision makers. Organisations store and process a huge amount of sensitive data.

When introducing new technology, it is of paramount importance that existing security practices are updated to protect against any new loopholes, particularly as there could be advances in cyber attacks over the coming decades.

28%

of IT decision makers who think AI and automation carries the most risk, think it will put relationships with customers at risk.

40%

Larger organisations are the most concerned about AI and automation technologies technologies, with 40 per cent naming them as the technology they consider to carry the most risk within the next 24 months. This is compared to 27% of SMEs.

Top three implementation risks

37%

Make their business more vulnerable to cyber attacks.

36%

Cost significant time and/or money to implement

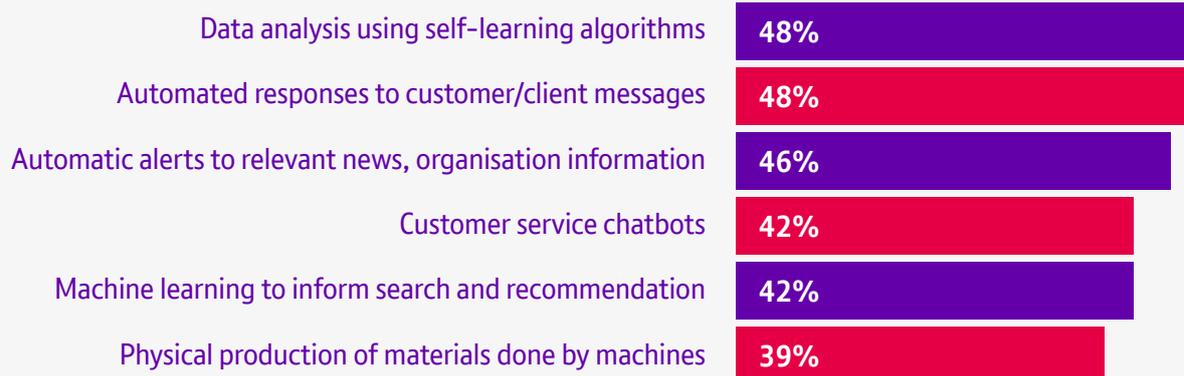
34%

It could lead to fewer jobs within my industry

The tools changing the state of play

With nearly half of UK businesses already experimenting with forms of AI and automation, we asked which tools they currently use. We found that self-learning algorithms, automated customer messages and automatic alerts are already commonplace. The diversity of tools already being utilised demonstrates the different ways in which businesses are experimenting with deploying AI and automation technologies in the workplace.

Which tools are businesses using?



Within those businesses not yet using AI and automation tools,

30%

are planning to invest within the next 2 years

“Within our office environment, automation is creeping in via automatic reordering of supplies and office consumables.”

—
IT decision maker from large manufacturing company

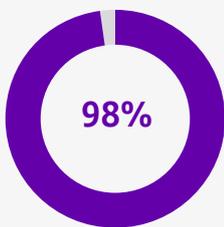
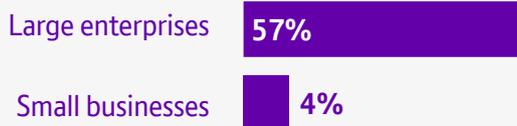
“Automation has enabled my business to expand. It has made it possible for me to have more time to focus on doing other things rather than some repetitive essentials.”

—
Small computer servicing company

How is big data changing businesses?

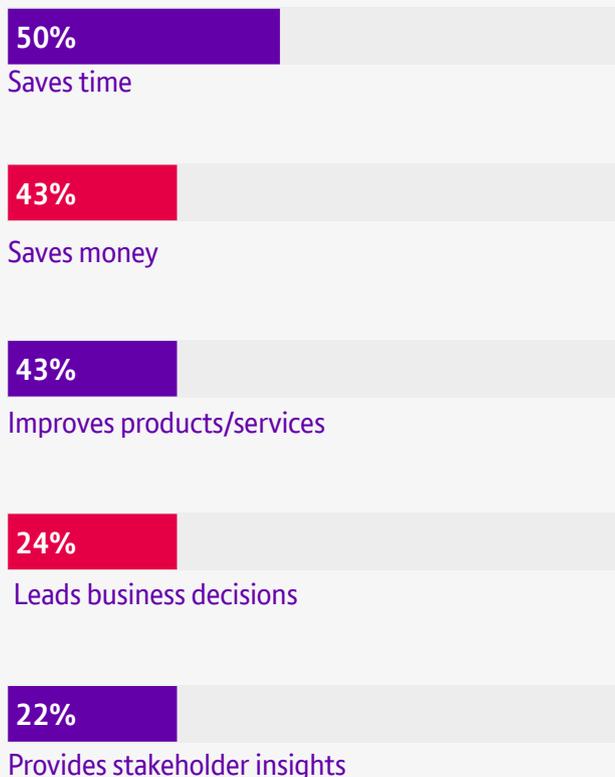
Big data is in the midst of a transition and has already made its mark on UK companies. 43 per cent of UK organisations are already using big data analysis, the majority of them being larger organisations. Recent predictions by Cisco suggest that global data centre traffic is set to grow and cloud traffic will increase 44 per cent annually. This demonstrates progression on an international scale and could result in significant rises in usage within the UK over the next five years.⁴

Utilising big data:

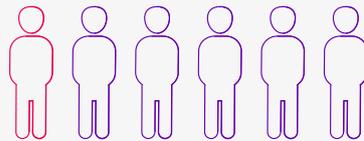


98 per cent of those businesses using big data analytics are finding them beneficial.

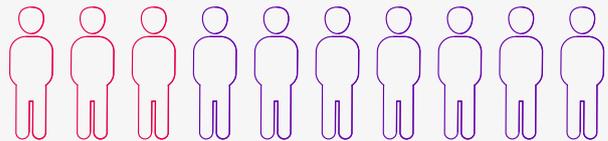
Big data operational benefits:



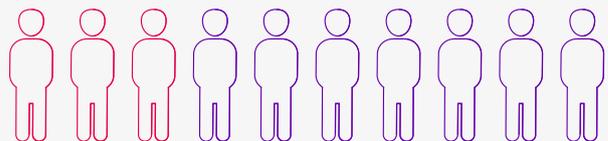
Big data and implementation risks:



1 in 6 IT decision makers consider big data to be the technology that carries the **most** risk to their organisation in next 24 months.



Of these, 3 in 10 say it will make their organisation more vulnerable to attack.



A further 3 in 10 say it could cost significant time and/or money to implement.

“Big data is something that we use to try and analyse trends and as an enhancement to sales and costings modeling. It is a driver to increasing sales and reducing costs.”

— Large manufacturing company

Adapting to our workers' needs: on the go technology

By now, flexible working is something the majority of businesses have realised they need to offer (with 78% saying this is available in their organisation).

This is enabled through a combination of mobile and remote access applications, as well as flexible hours, acknowledging that the modern workday no longer means the traditional 9 to 5 routine of office life.

“Technology enables me to work more flexibly, I can work from home and when I am on the move. It also allows me to work flexible hours so I can work evenings and weekends if I choose to.”

—
Small consultancy owner



33%
Find mobile applications to be beneficial and lead to a happier and more engaged workforce.

For organisations that see mobile apps as a risk, 41% stated vulnerability to cyber attacks as a concern.

Availability of flexible working within businesses:

| | |
|-----|--------------------------------------|
| 78% | Flexible working available |
| 43% | Flexi working hours available |
| 35% | Working on the go available with VPN |

45%
45 per cent of decision makers who adopt flexible working said that they currently use secure remote network access to enable flexible working.

41%
41 per cent said that their organisations offer access to consumer cloud storage solutions.



These external storage solutions could be more vulnerable to attack as they are not tailor-made to each business.

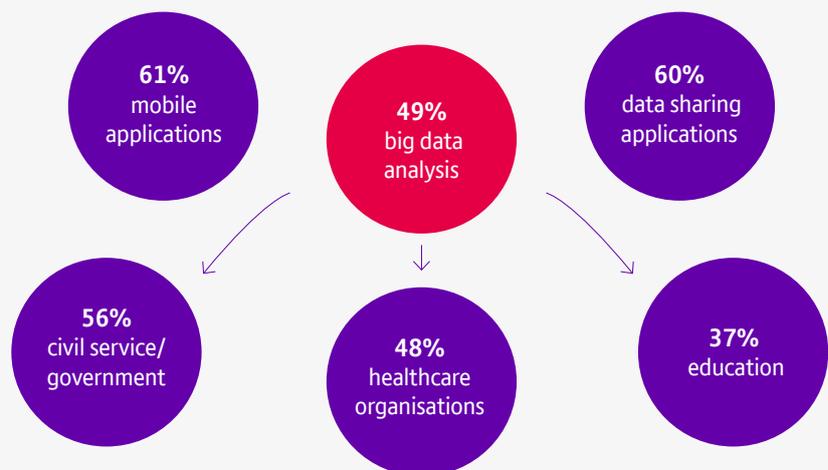
This suggests a need for better security infrastructure so that organisations can respond to the demands of remote workers while future proofing their organisations and reducing the threat of malicious attacks and potential data breaches.

How are the public and private sectors utilising technology?

The UK public sector appears to be benefiting from the early adoption of disruptive technologies. 95 per cent of organisations that operate within the UK public sector are already using at least one form of disruptive technology, compared with 85 per cent of businesses operating in the private sector.

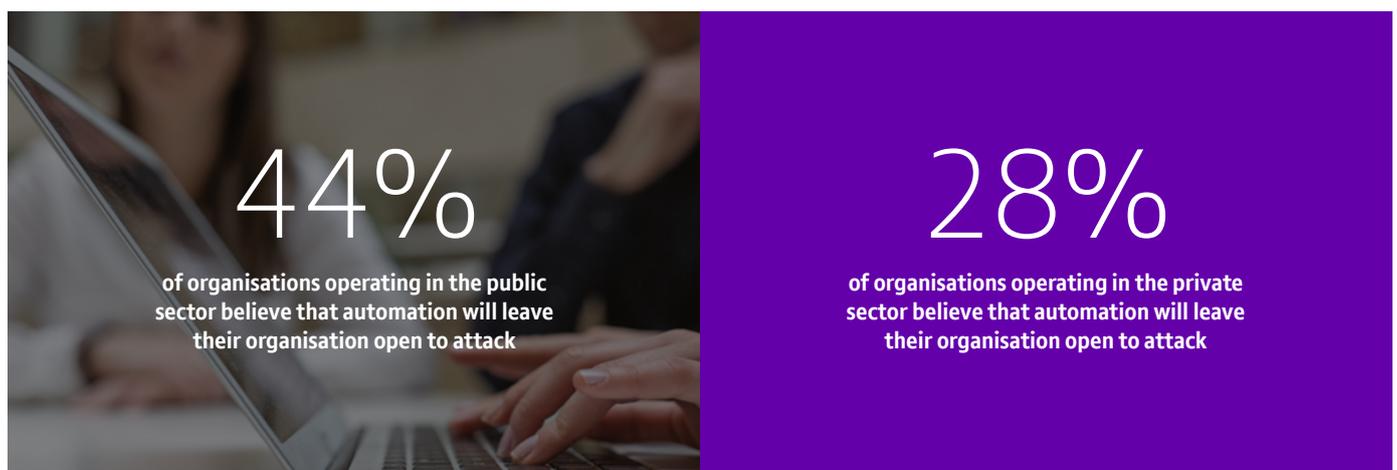
Almost half of these organisations operating within the public sector have implemented big data analysis, while 42 per cent of those operating in the private sector are using this technology to date.

Technology most commonly used in businesses operating within the public sector



When asked about the uses of big data and analysis, 71 per cent of organisations operating within the public sector said they were using big data to make efficient business and operational decisions. This is compared to 58 per cent of organisations operating within the private sector.

Automation and risk



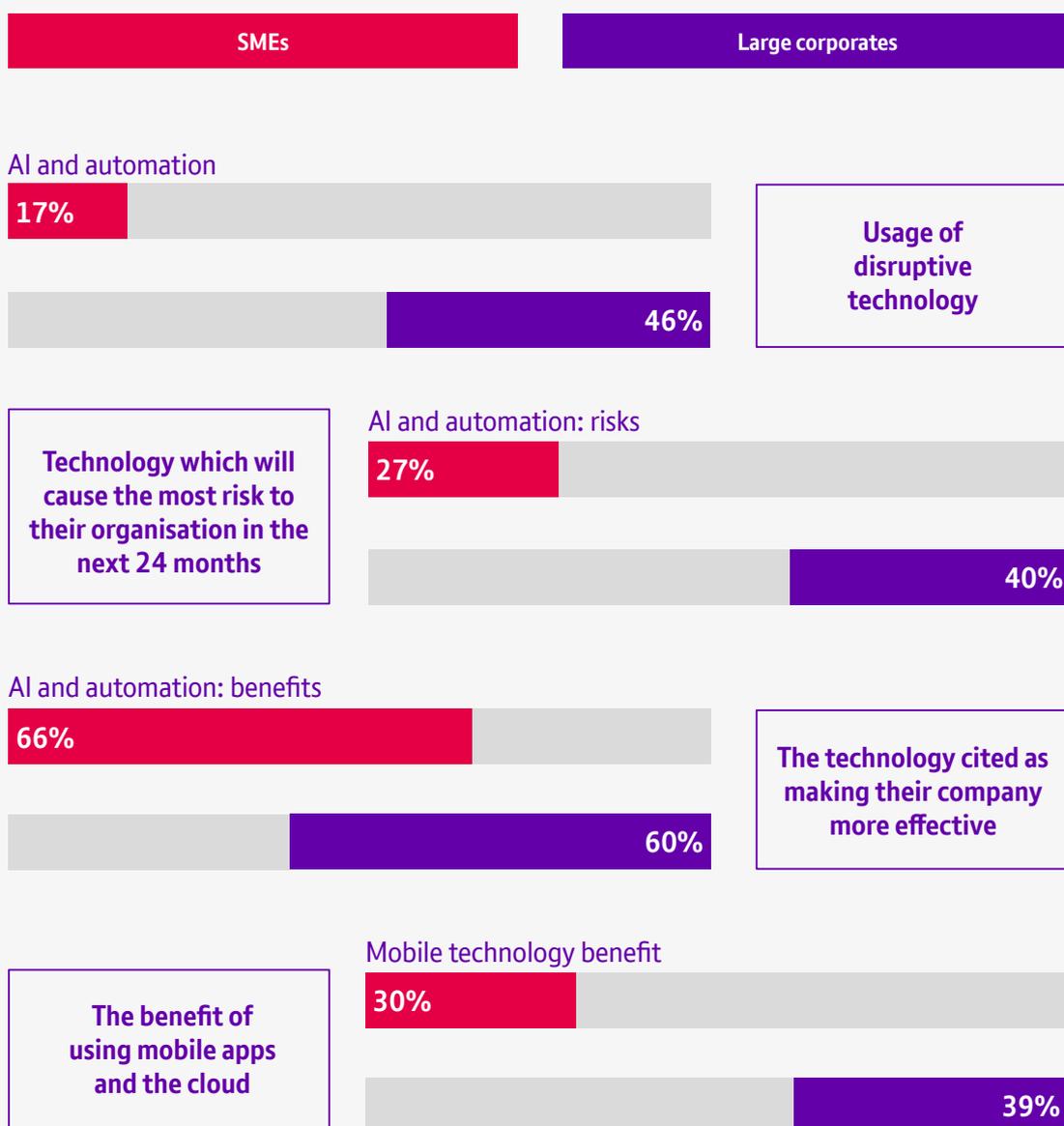
The sensitivity of government and public data which organisations operating in the public sector are privy to may have an impact on why these organisations demonstrated a greater concern over implementing these technologies in comparison to those in the private sector.

How are different sized businesses using technology?

SMEs are using AI and automation technology less than larger businesses. This is perhaps related to the cost implications of integrating these technologies into their businesses when their impact is still an unknown. A greater amount of SMEs see the potential of AI and automation technology as making their company more effective in comparison to large enterprises.

When asked about the risk of AI and automation, large enterprises saw the technology as carrying a greater risk to their business than SMEs.

David vs. Goliath: Comparing SMEs and large corporates



The future of technology: a new world order

Nicola Millard

Head of Customer Insight & Futures, BT

Machines vs. jobs: What does the data tell us?

One of the most quoted studies about the future of jobs is the 2013 Oxford Martin 'Future of Employment' paper. They calculated that 47 per cent of jobs were at risk of being automated in the next ten years.

A subsequent study by the McKinsey Global Institute took a more activity led view. The difference is that within every job category there are activities that may have a different technical potential for automation than others. McKinsey estimate that 5 per cent of jobs will be fully automated in the next ten years, but that 60 per cent of jobs could have 30 per cent of their activities automated.

In other words, we can see a future when a minority of jobs have been fully automated, and the rest have elements with the potential for automation. This means that jobs are more likely to change than be automated out of existence entirely.

On the positive side, some of the tedious tasks that we often don't enjoy – e.g. managing our inboxes, booking timesheets, rekeying data into multiple systems – have high potential for automation. This frees up time to focus on more challenging aspects of the job and make us more productive.

What activities are more likely to be automated?

The first thing we need to think about is the tasks humans are good at, that machines still find difficult. Playing games, interpreting and spotting difficult patterns are structured activities which are simpler for machines. Whereas conversations, negotiating with difficult customers, being empathetic, caring and creative are still better performed better by humans.

This points towards a future where human and machine are no longer substitutes for each other, but companions. New categories of jobs may well evolve as we augment each other.

Machine learning is only as good at the data it learns from. We need to become responsible parents to our technological offspring; we are already seeing a generation of chatbots evolving, that work alongside and learn from their human customer service counterparts – because we are better at the nuances of conversation than machines, and they can learn from us.

When it comes down to more risky activities – like driving cars, diagnosing illnesses, or managing our financial affairs – we need to ensure that machines can be held accountable for their actions. This is why we are likely to see machine ethicists, forensic scientists, and lawyers getting involved in regulation in the future.

In reality AI really isn't about a machine uprising. AI should really be renamed "augmented intelligence", because its role is to enhance what we do – make us super human – rather than necessarily replace us.

Notes to editors



About Opiniium

OPINIUM is an award winning strategic insight agency built on the belief that in a world of uncertainty and complexity, success depends on the ability to stay on pulse of what people think, feel and do. Creative and inquisitive, we are passionate about empowering our clients to make the decisions that matter. We work with organisations to define and overcome strategic challenges – helping them to get to grips with the world in which their brands operate. We use the right approach and methodology to deliver robust insights, strategic counsel and targeted recommendations that generate change and positive outcomes.

¹ Deloitte, 'From brawn to brains: the impact of technology on jobs in the UK' (Jan 2016) Available here: <https://www2.deloitte.com/content/dam/Deloitte/uk/Documents/Growth/deloitte-uk-insights-from-brawns-to-brain.pdf>

² PwC, 'UK Economic Outlook 2017' (March 2017) Available here: http://pwc.blogs.com/press_room/2017/03/up-to-30-of-existing-uk-jobs-could-be-impacted-by-automation-by-early-2030s-but-this-should-be-offse.html

³ Guardian, 'Robots 'could replace 250,000 UK public sector workers' (Feb 2017) Available here: <https://www.theguardian.com/technology/2017/feb/06/robots-could-replace-250000-uk-public-sector-workers> (N.B. this is not referenced verbatim within the report)

⁴ Cisco, 'Global Cloud Index 2015–2020' Available here: <http://www.cisco.com/c/dam/en/us/solutions/collateral/service-provider/global-cloud-index-gci/white-paper-c11-738085.pdf>

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