



TOMORROW'S TALENT

HOW TECHNOLOGY IS SHAPING
THE FUTURE OF WORK



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We are in the midst of a massive upheaval in the UK job market. The rapidly evolving technological landscape will fundamentally shift the nature of the jobs available and the underlying skills necessary to participate in the future workforce. In this report, we set out to outline some of the key emerging technologies and trends that will impact the future workplace.

First, we provide an overview of each trend and key data to support its emergence. We then analyse multiple manifestations of this trend in the real world, looking at the key impacts of these innovations on the future labour market. Finally, we extrapolate the implications of the trend at large for the future workforce, highlighting the key impact areas.

The report first considers the context and threat of automation on the future job market and the increasing ability of machines to enable empathetic services, thus threatening new job roles in the process. We then broadly explore how people will need to respond through upskilling and augmenting their natural talent with the help of new technologies. Finally, we explore the emerging technology that we think will enable changes to the way that people work, from how they communicate and collaborate to a newly empowered gig economy.

At PageGroup, we believe the evolving technological landscape is something to be excited about and embraced. It will transform the very nature of available jobs, forcing organisations to reprogramme their thinking and processes to ensure they obtain the key skills that are integral to the continued development of their workforce. We have partnered with data-led trends agency, Foresight Factory, and they have reported that 64% of people believe that those who are not skilled in technology will find it harder to get a job in the future. This means that those who adopt the continuous learning mentality will be at the forefront of collaboration and communication. The evolution of man vs machine is sure to see a more competitive war between millennials, Gen Z, and the baby boomers.

Emerging technology is a key factor in the technical skills gap, and many organisations have struggled to get to grips with automation, blockchain, and cloud computing. Some have yet to use artificial intelligence (AI) effectively within their infrastructures, whilst many more still need to refine their processes to enable them to create the right agile environments, robust computer systems, and cloud solutions for their workforce to excel in. This exciting new wave of technology has become a valuable commodity in its own right, providing both risk and opportunity in equal measure.

With over 40 years of experience as recruiters, we possess unrivalled knowledge of the technological challenges facing businesses when hiring. It makes us uniquely positioned to help you find the right talent, not just for now, but for the future.

On behalf of PageGroup in the UK, I hope you enjoy the read.

Doug Rode,
Senior Managing Director

About Foresight Factory

We've partnered with Foresight Factory, a leading data-led consumer trends agency. They help global brands, such as British Airways, Shell, and P&G, across 60+ countries, unlock the potential of consumer trends and data. Foresight Factory make trends robust; their proprietary data quantifies their trends. This helps their clients to drive strategic growth through customer centricity, deliver marketing success through impactful campaigns, and maximise channel effectiveness.

Foresight Factory's in-depth research underpins this eBook and has allowed PageGroup to thoroughly examine the rise of technology, and the exponential forces shaping the hiring process.



AUTOMATION

Automation of tasks and the advent of artificial intelligence are disrupting the labour market and revolutionising customer experience. Consumers are both wary and welcoming of a more automated future.

The era of automation

Automation is dramatically changing the workplace

In many industries, the rapid development of artificially intelligent machines, robots and algorithms is beginning to displace some human capabilities. As such, the automation revolution is evolving the roles and tasks people will undertake in the labour market. The World Economic Forum's Future of Jobs 2018 report highlights that nearly half of companies surveyed expect automation will contribute to some reduction of full-time employees by 2022. However, more than a quarter of businesses expect automation to create new roles too. Automation is not only displacing jobs, but creating fresh demand that businesses will need to prepare for.

Skill sets need to evolve to avoid becoming obsolete

A rapidly changing landscape places the onus on individuals to become agile and active learners. In 2017, 67% of professionals agreed that people who are not skilled in technology will find it harder to get a job in the future. Automation threatens not just the labour market, it will also cause a major existential upheaval in peoples' lives. Bargain hunter, driver, friend – the AI revolution could automate all of these roles.

It is likely that some lower skilled jobs will be more immediately at risk

However, new technologies are increasingly posing a risk to higher skilled jobs too. This will inevitably lead to new types of jobs being created, such as jobs in managing artificial intelligence, innovation, and knowledge creation.



Changing perceptions of automation in the workplace

In 2017, there was a lot of concern surrounding automation and the effects on future job security, which resulted in a backlash from UK workers.

64%

of people think that those who are not skilled in technology will find it harder to get a job in the future

53%

of people think companies should prioritise employing humans over robots, even if it means they have to charge higher prices

Today, the potential for automation in the UK is now much clearer, and some key industries are likely to be affected.

Share of jobs with potential high automation rates

Manufacturing

45%

Whole and retail trade

42%

Human health and social work

18%

Education

8%

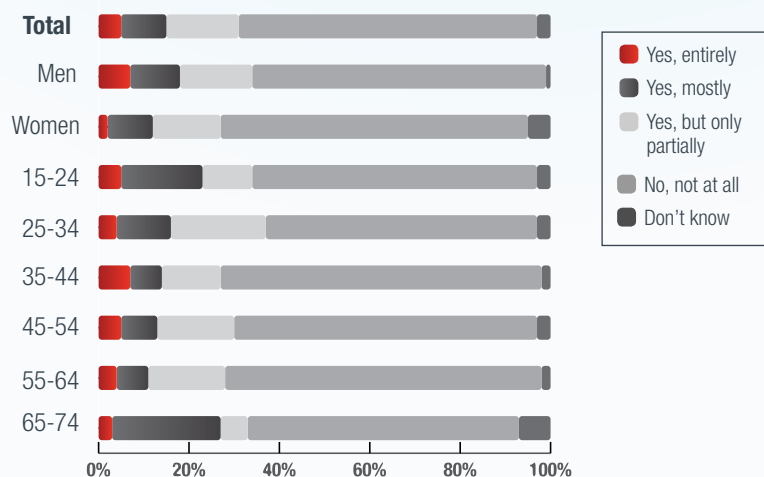
Construction

23%

Data summary: The automation of jobs

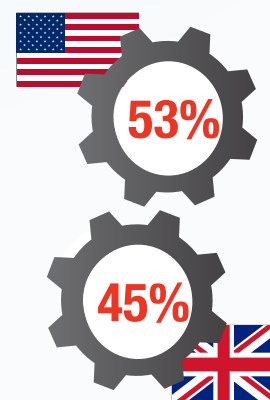
- In 2017, most people in the UK did not think their current job could be done by a robot or artificial intelligence
- In manufacturing, however, almost half of jobs in the UK have high automation potential

Do you think your current job could be done by a robot or artificial intelligence in the future?



Source: Eurobarometer/Foresight Factory | Base: 729 face-to-face respondents aged 15+ who are currently working, UK, 2017.

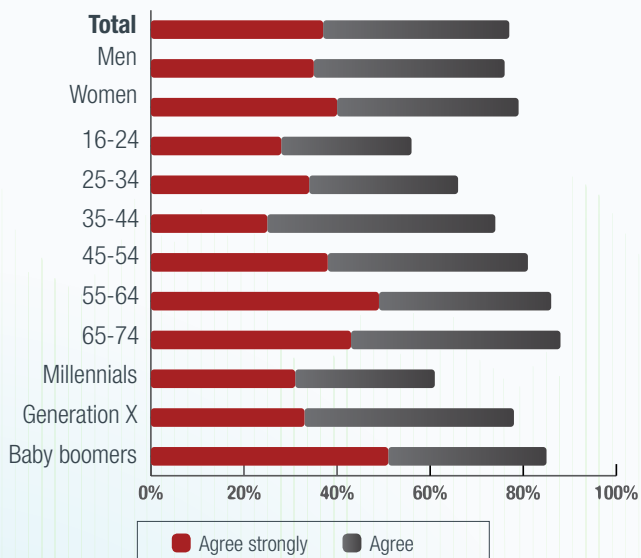
Percentage of manufacturing jobs with a high potential of automation



Source: Raconteur, 2018

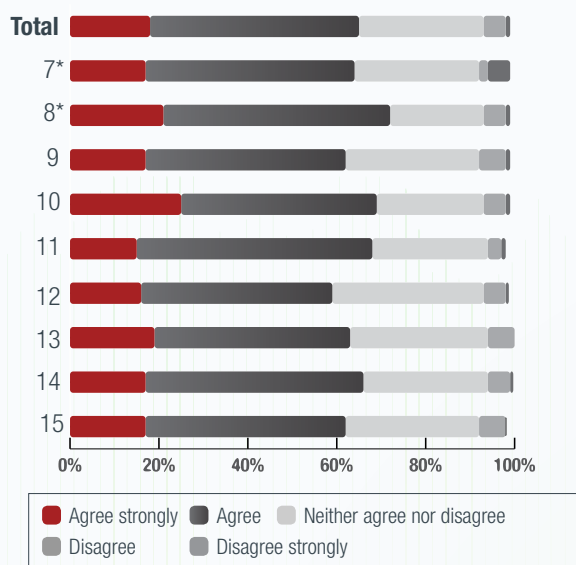
40% of people in the UK feel uncomfortable having a robot assist them at work.

“When making a complaint about a product or service I prefer to speak to a human being”



Source: Foresight Factory | Base: 5008 online respondents aged 16+, GB, 2015 February

“When I’m an adult, more jobs will be done by robots and computers than humans“ | Children aged 7 - 15, GB | 2017



Source: Foresight Factory | Base: 1005 online respondents aged 7-15, GB, 2017 February

Brand innovation and insight: Automation in the workplace today

In May 2019, robot farming startup Iron Ox started selling its produce – namely sorrel, basil and lettuce – at Bianchini’s Market in San Carlos, California.

While Iron Ox uses robotic picking arms, hydroponic vats, and self-driving porters to grow its greens, humans are still involved in the production process: labourers plant the seedlings and package the produce after harvesting. This points to the use of automation as a labour-saving device, not a replacement.

Security company, Secom, has created a life-sized anime security guard, which is due to be launched in 2020.

Secom’s AI guards scan visitors, looking for signs of concealment or suspicious items. The information is then fed in real-time to screens monitored by a human guard, who can intervene if necessary. Secom hopes the AI guard will help address the labour shortage in Japan.

In June 2019, Singtel opened a completely unmanned pop-up store in Singapore. The 24-hour UNBOXED store enables consumers to try new products, sign up for new contracts and buy phone accessories without any physical staff present.

At CES 2018, Robomart, a California-based startup, unveiled its autonomous convenience store concept. Following CES 2019, the company announced a partnership with grocery store chain Stop & Shop to deploy its driverless store vehicles in the Boston area, from Spring 2019.

Both examples point to a future in which automated and staff-less convenience stores provide quick and easy access for consumers. This is an example of a much more complete automation – humans will not be involved in the store at any point.

While these automated stores will be able to serve more customers more efficiently, the desire for human service will still be prevalent for consumers who desire luxury goods and services.

Implications for tomorrow's talent

In a recent debate, Jack Ma, co-founder of Alibaba, claimed: "I don't worry about jobs... computers only have chips, men have the heart. It's the heart where the wisdom comes from." Ma acknowledged that we need to find ways to become "more creative and constructive", and he concluded by saying: "My view is that [a] computer may be clever, but human beings are much smarter." He was very confident that AI and automation would not erode the job market: "So that's my view about jobs, don't worry about it, we will have jobs."

On the other side of the debate, Elon Musk was a lot more pessimistic about the future of AI and human labour, claiming that: "AI will make jobs kind of pointless." He pushed his point even further, saying: "Probably the last job that will remain will be writing AI, and then eventually, the AI will just write its own software."

The future is... uncertain

The conflict between Ma's and Musk's views shows just how much uncertainty there is when thinking about automation and the future of the workforce. Estimates about how many jobs will be destroyed, tasks automated or jobs created are different across different commentators. The only thing we can know for certain is that there will be disruption and change, but the exact scale of that change will be difficult to predict.

EMOTIONAL AI

Consumers expect natural, human-like interactions via all channels, as emotion and empathy become valued skills for brands, consumers and bots alike.

Artificial intelligence vs. emotional intelligence

In the never-ending story of consumer empowerment, a new chapter opens. We anticipate a future in which emotional intelligence becomes a core commercial expectation, as well as a key personal skill to master in an emotion-sensitive world and workplace.

Wherever the customer finds themselves, empathetic engagement will surface. Powered by cold hard data, brands will deliver warmer, more human interactions, at scale and on-demand. This is much needed. Although 31% of UK consumers use a chat messenger service to speak to a customer service assistant at least monthly, 74% say that when making a complaint about a product or service they prefer to speak to a human being. The opportunity is to develop a range of empathetic touchpoints, from context and mood-sensitive greetings to recommendations based on a customer's underlying motivations. Commercial interactions that do not respond to customers with a real sense of humanity will soon seem insufficient.

As AI and voice assistants improve mimicry of human traits, people will aim to improve the skill of empathy. For some, a perception of a polarised society encourages an empathy-seeking mindset to better understand and engage with other people. In the world of business too, down-to-earth leadership is an essential skill to create open, efficient workplaces, where profitable and interpersonal relationships can flourish.



Our evolving relationship with AI

From 2017 to today, there has been a significant uplift in the number of people interested in, and interacting with, chat boxes online. Considering the trends from 2017 to 2019, the uptake of this platform is expected to increase further.

2017

16% are interested in using a chat box online

26% have already used a chat box

36% of Millennials are using a chat box

2019

32% are using a chat box **once a month at least**

5% are using a chat box **every day**

55% of Millennials are using a chat box **at least once a month**



LOOKING AHEAD

12% are interested in using a chat box online

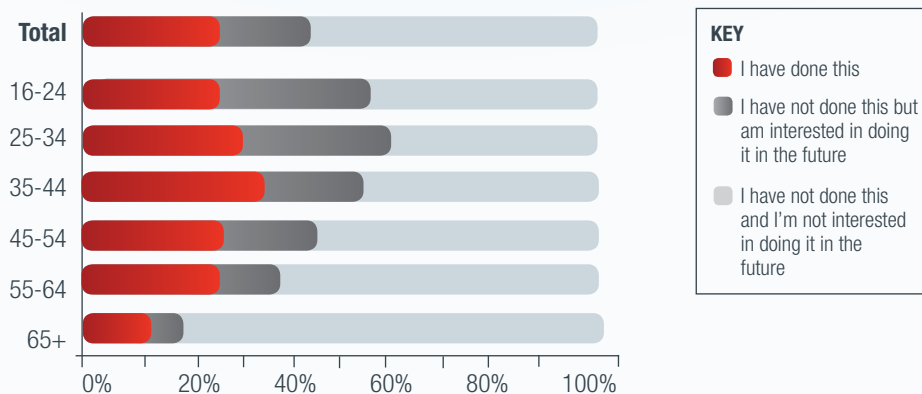
50% have already used a chat box

66% of Millennials are using a chat box

Data summary: AI supporting people

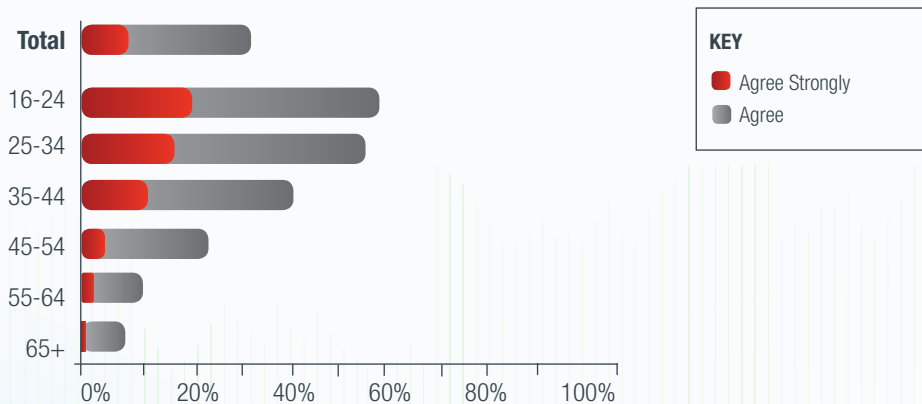
- A quarter of the total UK population has already used customer service chat boxes, with another 15% interested in using them in the future.
- 1 in 10 “like” a brand on social media, showing that engagement with brands is following a similar style to engagement with peers. This is especially true among younger consumers, almost a quarter of whom are interacting with brands on social media platforms.
- Social media management skills and expertise will become much more important as this trend develops.

“I have used a customer service chat box service that popped up on my screen when I was researching purchased online.”



Source: Foresight Factory | Base: 1000 online respondents aged 16+, GB, 2016 October

I “like” a brand / follow a brand on a social networking site (e.g. Facebook, Twitter, Instagram)



Source: Foresight Factory | Base: 1000 online respondents aged 16+, GB, 2019 May

Brand innovation and insight: Emotional AI today

Gen Z mobile shopping app Dote, which curates products from brands like Sephora and Gap, launched a new feature called Shopping Party in April 2019.

In August 2019, HBO launched a new campaign and website called Recommended By Humans. The site showcases tweets and videos from fans recommending series and documentaries.

Bots are becoming more and more involved in curation and personalisation, and because they are such a nascent technology their recommendations are often erroneous. Human input can lend an element of quality control to the process, while algorithms cover the heavy lifting.

As consumers are able to complete more of the ideal customer purchase journey online, they will reduce the need for customer service assistants to be in physical stores. These assistants can then be re-assigned online to help with consumer enquiries remotely.

In partnership with Volara, Dream Hotels introduced a Google smart speaker in its downtown New York property in January 2019. The device can instantly translate between guests and staff at reception.

The polyglot nature of bots and digital services mean that instant translation, while still in its infancy, will be able to respond to a variety of different requests. This will reduce the requirement for different staff with language skills – though these could remain important for luxury products and services.

In December 2018, the NSPCC launched an Amazon Alexa donation tool. Built with an off-the-shelf kit called goDonate Voice, the tool allows consumers to make a donation by telling the device “Alexa, open NSPCC”. The donation is then given via Amazon Pay.

While some questions can be answered by bots, many are phrased syntactically differently and need human assistance. Humans and bots will have to work together to manage the volume and unique elements of certain customer queries.

Implications for tomorrow's talent

Emotional intelligence

Emotional intelligence is now verging on becoming a CSR requirement for brands – knowing a customer's personality can help avoid potentially fractious situations and supply a smooth path to purchase. Those that offer an open door policy towards mental wellbeing within their offices and HQs, offer wellness benefits, and promote flexible working around employee lifestyles will feel in step with the times.

Training empathy

Brands should offer emotional intelligence coaching for businesses and individuals alike. There are now several services that do this, in line with the increasing value placed on emotional quotient (EQ). For many, it is seen as a trait that will keep humans ahead of AI in the job market. Furthermore, the advent of pervasive technology is helping brands to become more human and empathetic – many brands are realising that increases in productivity from machines cannot come at the cost of an emotive workforce.

Chatbots and humans will work side by side

Emotional AIs and chatbots will be used concurrently with people, and it will be necessary for professionals to know how these tools work in order to use them effectively. Knowledge about the ways a chatbot or AI assistant work could be a useful skill to many in customer service roles.

UPSKILLING

How we learn is evolving. Skills can now be easily upgraded, gained or discarded. Brands are invited to become educators, empowering people to attain skills and filling knowledge gaps with rich content.

Liquid skills and continuous learning

In a predominantly digital society, individuals' go-to sources of advice and knowledge have shifted. When they do not know how to do something, they can instantly find the answer online. Knowledge acquisition is continuous, and consumers are moving towards an agile approach to learning.

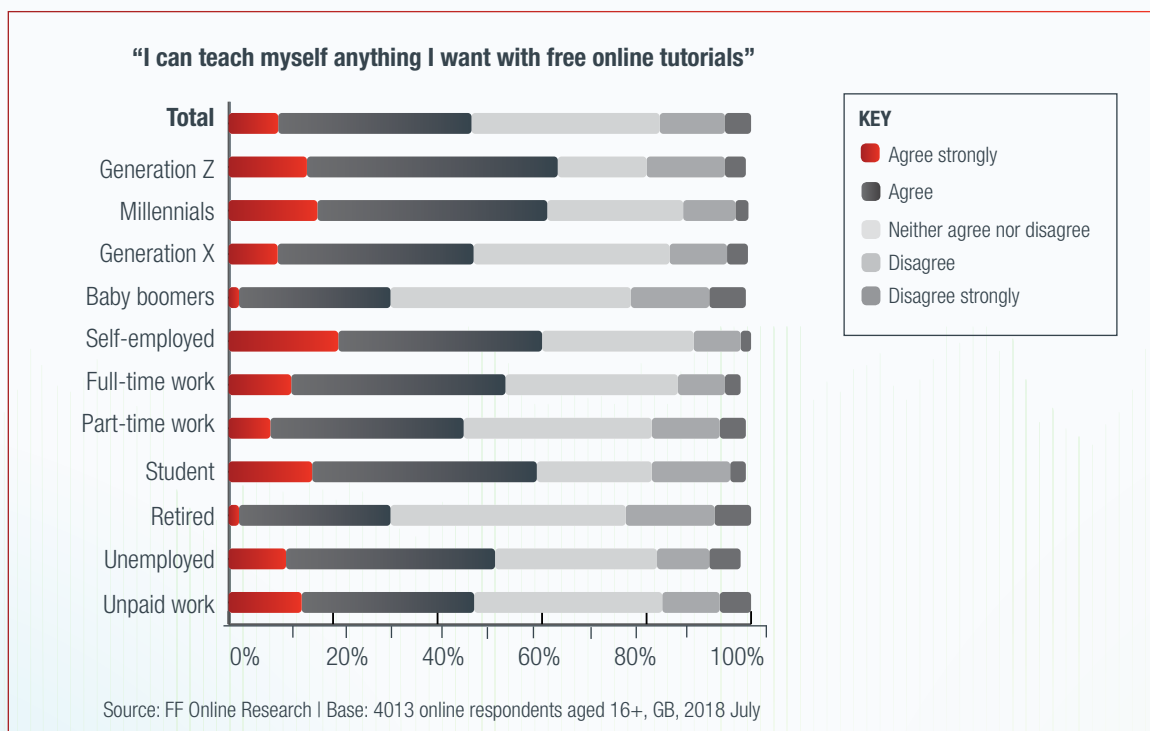
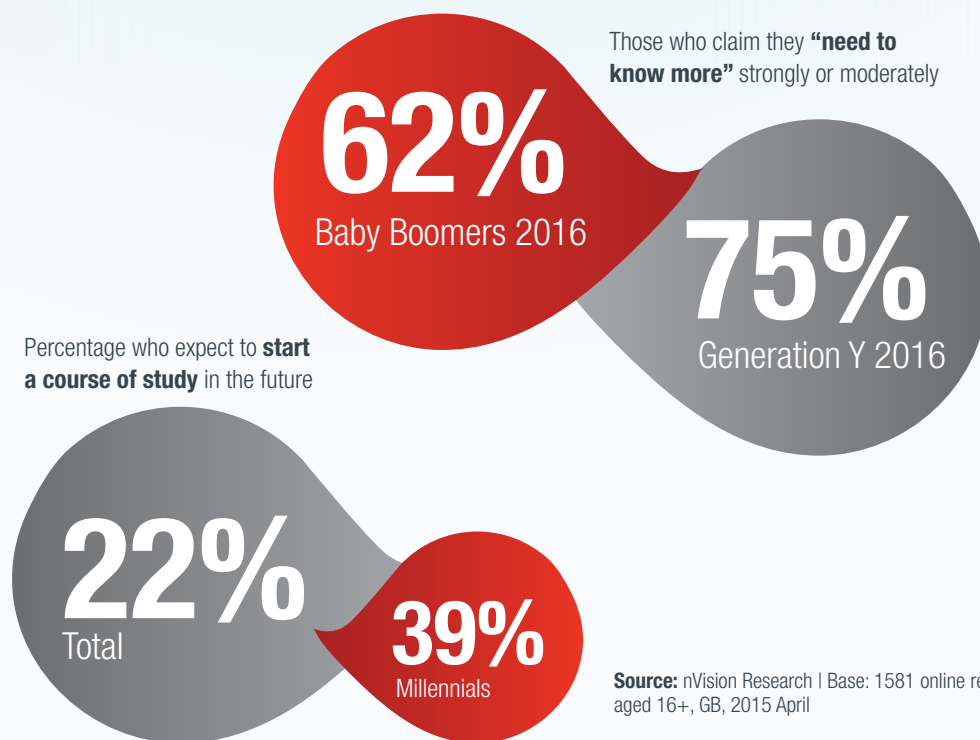
In 2018, 47% of British consumers agreed that they can teach themselves anything they want - online and for free. The internet has democratised access to information, and at the same time, upskilling has become a workplace essential in the face of fractured careers, fast-changing technology and the threat of automation. The value of one's education no longer lies in gaining knowledge, but in developing a dexterity for learning.

As expectations of info-retrievability are raised, so too is the hunger for knowledge, with over half of British consumers agreeing that they want to be more knowledgeable (51%). Despite this, consumers are left with gaps in their understanding – how to manage their money, how to develop the right skills for a job or career – that traditional education and resources cannot satisfy.



The growing affinity for continuous learning

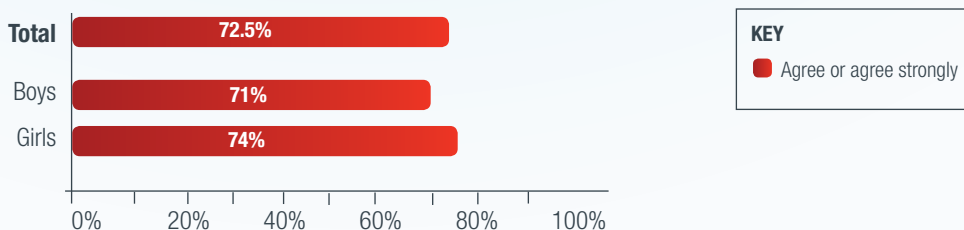
In 2017, there was very high interest among professionals to learn more. Delving deeper into the trend of continuous learning, today people are happy to teach themselves anything they need to online, and feel confident in doing so.



Data summary: Upskilling now

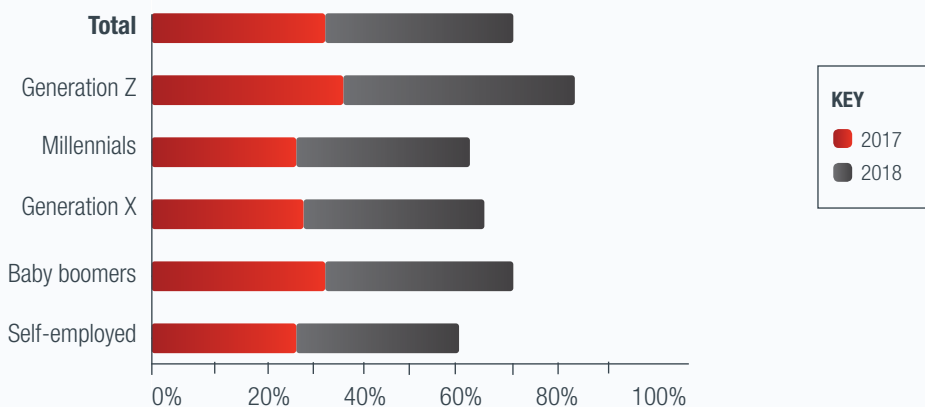
- Almost 3 in 4 adults claim that when they don't know how to do something, the first thing they do is search for an answer online. The ease of upskilling enables individuals to quickly respond to changes
- The importance of being knowledgeable has risen significantly in just a single year, an attitude held by half of all consumers in 2018. Younger consumers place the most importance on it, while the self-employed seem the group to be the least concerned

“Entertainment should be about learning new things as much as simply having fun” | 2017 | 7 – 15 year olds



Source: Foresight Factory | Base: 1000 online respondents aged 16+, GB, 2016 October

“Wanting to be more knowledgeable”



Source: Foresight Factory | Base: 1005 online respondents aged 7-15, GB, 2017 February

Source: Foresight Factory | Base: 4216 online respondents aged 16+, GB, 2018 July

Key STEM and soft skills

STEM Skills	Soft Skills
Mathematics	Enquiry & Aspiration
Chemistry	Teamwork & Collaboration
Computer Science	Leadership
Biology	Proactiveness
Physics	Emotional Intelligence
Engineering	Empathy
Economics	Adaptability
Accounting	Active Listening
Finance	Creativity
Architecture	Logical Reasoning
Cybersecurity	Time Management
Ability to analyse empirical data	Persuasion

Brand innovation and insight: Upskilling in today's workplace

In February 2019, New Campus launched in Singapore and underwent a rebrand, with the aim of championing learning for life, for people of any age and background.

Five months later, blender brand Vitamix launched Vitamix Rewards, a new loyalty programme that encourages customers to “learn and earn”.

Education is lasting longer for many individuals and is becoming a lifelong pursuit instead of ending after university. Learning new skills in later life is increasingly becoming a necessity for many who want to remain current with changing business practices and software requirements.

Many brands are offering educational incentives to maintain a relationship with them. Often these are outside of the immediate scope of the product, making the knowledge useful and worthwhile. Employers will begin to look at these as valid qualifications.

Hosted by Clydesdale and Yorkshire Bank, B Works is designed to give freelancers, students, SMEs and startups a space to learn, work and bank.

Financial literacy is one of the key educational skills that is rarely taught in schools. A variety of brands have been offering financial literacy and assistance across sectors.

In June 2019, cookery initiative Life Kitchen opened its first culinary school in Sunderland. Run by food writer Ryan Riley, it conducts cooking classes for those living with cancer.

Many consumers are parts of groups that are historically underserved: those with conditions and diseases, the elderly and those in various low-income brackets all contend with gaps in product offerings. By offering education facilities specifically for these groups, brands are providing help in ways that will impact their lives for many years to come.

Implications for tomorrow's talent

Education of the future

Elon Musk imagines a world where information is no longer siloed: "The way education works right now, it's really low bandwidth, it's extremely slow, lectures are the worst... Down the road with Neuralink [neurotechnology company] you can just upload any subject instantly, it will be like *The Matrix*."

Reforming education

On the other hand, Jack Ma, of Alibaba has a different vision: "For the next 10, 20 years, every human being, country, government should focus on reforming the education system, making sure our kids can find a job, a job that only requires three days a week, four hours a day." This type of educational reform will likely lead to long-term learning and consistent upskilling.

People-centred skills

Ma focuses in on the core problem in upskilling: computers are better at most operational metrics: "I think that we should change the way of education. In the past, we focused a lot on remembering things. Computers can remember better than you can. Want to calculate faster? Computers can calculate much faster. Want to run faster? Computers can run much faster than you. So human beings should have confidence by being more creative, more constructive. So how can we teach our kids to be more creative and constructive?"

Soft skills are important too

Many employers have lamented that employees no longer have critical "soft skills" such as creativity, teamwork, empathy or leadership, focusing instead entirely on STEM skills. While these skills are critically important, extra focus on these may result in less focus in other areas. STEM skills are traditionally needed in jobs that require complicated problem solving, such as engineering or technology jobs, but more and more often these skills can be outsourced to machines and softer skills such as teamwork or empathy are desired.

BIOHACKING

A future awaits in which smart implants, DNA-derived treatments, high performance prosthetics and memory-enhancing components collectively ensure that every human will feel the bio-upgrade itch.

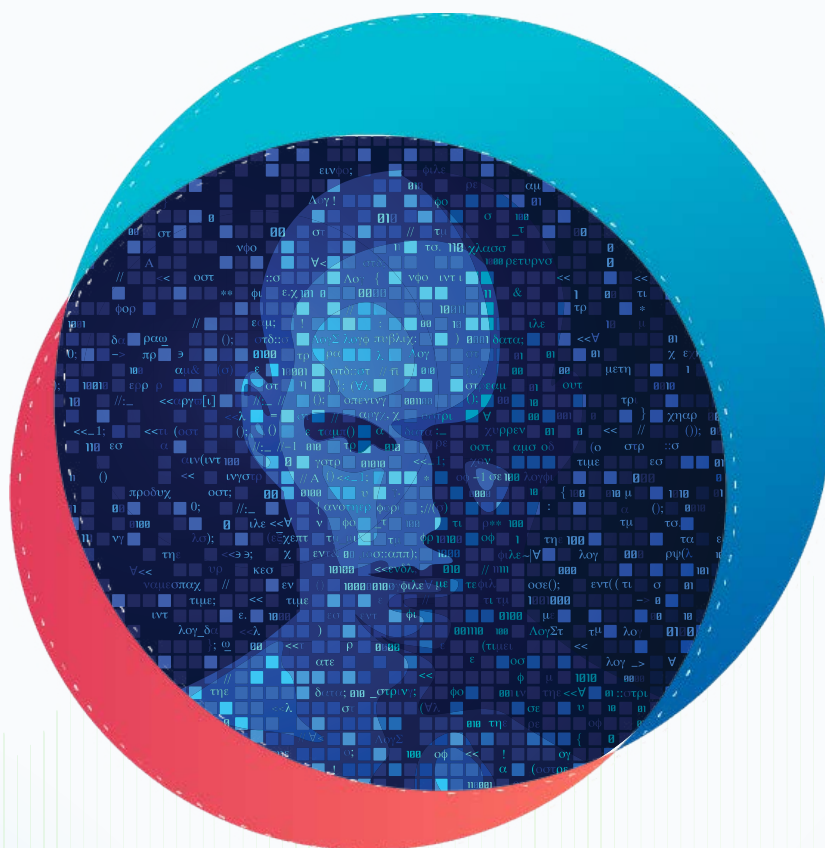
Beyond human

The notion that there are natural limits to our physical and intellectual abilities is progressively weakening. Even as societies struggle to meet the altogether more basic and immediate health objectives of the day, early momentum builds behind the view that the human form – its core physical-cognitive assets, its frailties, its limitations – can (and should) be augmented to fundamentally enhance performance.

We anticipate a world in which the transformative power of technology – a force dramatically disrupting how we communicate, shop, work and entertain ourselves – is aggressively brought to bear on the human experience.

A future awaits in which smart implants, DNA-derived treatments, high-performance prosthetics and memory-enhancing components collectively ensure that every human will feel the bio-upgrade itch. Indeed, early consumer support for hypothetical innovation suggests many would welcome the opportunity.

Elon Musk has claimed that if humans want to continue to add value to the economy, “they must augment their capabilities through a merger of biological intelligence and machine intelligence”, advocating the adoption of mechanical or digital augmentations to improve the capacity of the human body. In order to compete with the computing power of machines, some human workers will need to augment, or upgrade their bodies.



Current limits of biohacking

Since 2017, there has been a rising awareness of and interest in the concept of being able hack our bodies to improve our performance and keep up with technology.

31%

are interested in contact lenses that would allow them to see in the dark

22%

would be interested in using a wearable device



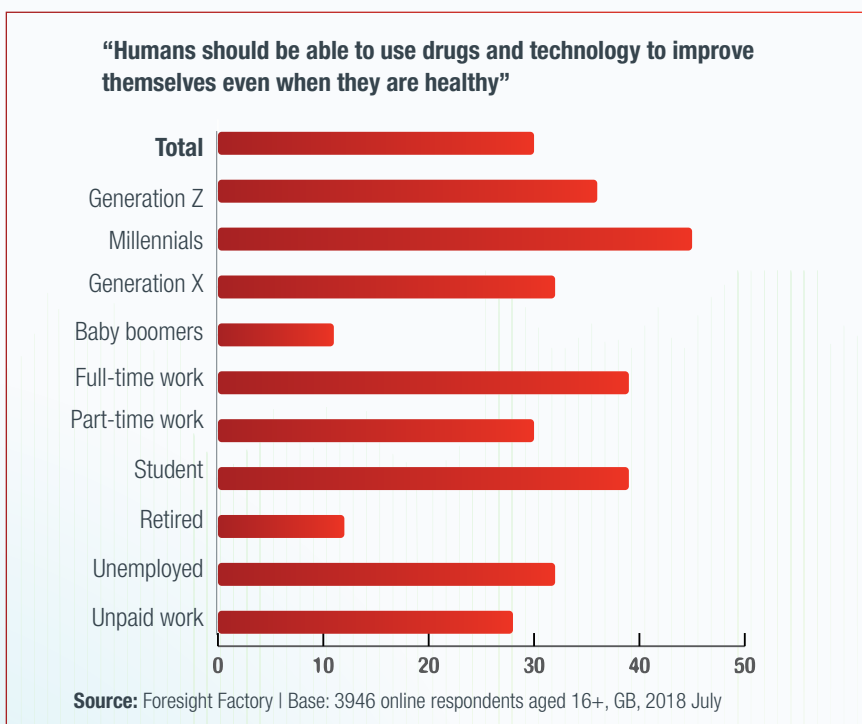
Knowing your body

49%

would be interested in a service that analysed their DNA information to give them personalised health advice

Source: FF Online Research | Base: 5005 online respondents aged 16+, GB, 2016 February

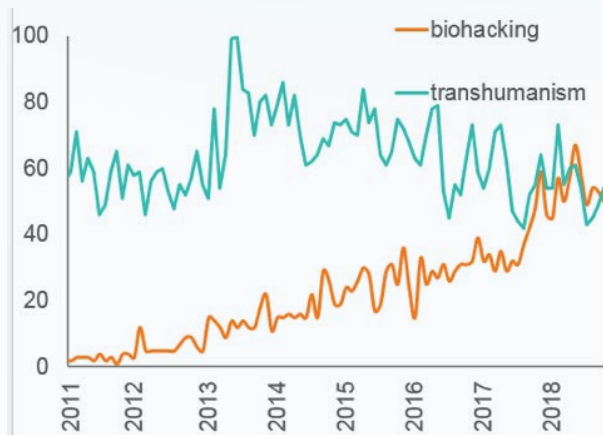
Now, this concept is a more realistic option, and people's attitude towards bodily enhancements are reflecting a society that is racing to stay ahead of artificial intelligence.



Data summary: A rising interest in biohacking

- Biohacking is becoming more palatable to consumers as high-profile use cases make the news and other media. Sweden, for example, is a hotspot of biohacking, with large numbers of Swedes implanting small chips into their wrists for use as public transport tickets.
- Nootropics and other drugs are becoming more popular, following on the wave of productivity drugs such as Adderall. CBD and other chemicals are also being used to treat anxiety or negative emotions.

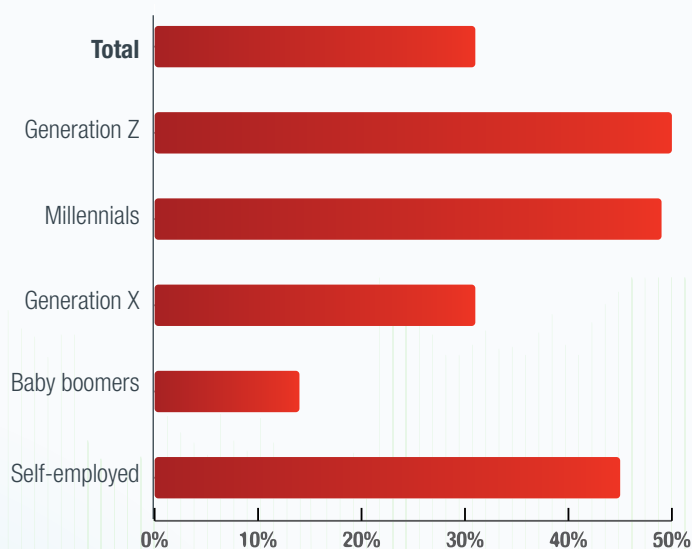
Google search interest in biohacking



Source: Google Trends (www.google.com/trends/)/Foresight Factory, Worldwide, 2018

Interest in smart drugs that improve concentration

Percentage selecting very or quite interested



Source: Foresight Factory | Base: 4020 online respondents aged 16+, GB, 2018 July

Brand innovation and insight: Upskilling in today's workplace

Bulletproof is a food and supplements brand with a strapline of "You. Only better". Founded by a former tech entrepreneur, its aim is to hack the human body in order to improve performance.

In November 2018, it was announced by The He Scientific Lab that they had been responsible for the birth of the world's first gene-edited babies. The two girls supposedly have resistance to HIV, though this has come at some other costs.

The project's goal was to make individuals immune to HIV by disabling the gene for a protein called CCR5, using CRISPR. The wider effects of disabling this gene – which is involved in the immune function – are not yet clear, and there are questions surrounding the ethics and safety of this genome editing experiment.

Both physiological and chemical enhancements may become necessary for some workers to maintain productivity and competitiveness versus automation or other markets. Manual labourers especially may be expected to be able to operate augmenting machinery.

While genetic modification of humans is banned almost everywhere in the world, there have been recent experiments that display that GM babies have been born successfully. Workers in the future may need to compete with genetically modified peers.

Implications for tomorrow's talent

Chipping employees for security

Wearable uptake remains fairly low, but there have been attempts by some employers to trial “chipping employees”; Wisconsin-based Three Square Market is trialling the initiative as of autumn 2017. Employees have microchips embedded into the flesh of their hands and can use these to open doors, unlock their computers, or purchase groceries. These chips can provide much better security for a company.

Monitoring employees to give them better working conditions

Biometrics could allow companies to determine which circumstances favour which worker's conditions. Some workers may perform better at certain blood glucose levels, or at different times of the day. A new form of personalised efficiency may be developed through the monitoring of employees' vital signs to provide the best office environment for maximum productivity.

Brain/computer interfaces

Brain computer interfaces, like Musk's Neuralink, can forge a link between minds and computers, enabling individuals to have much more control over digital objects and devices. These skills may be highly in demand in the future, but experimental science will make early adoption dangerous.

AUGMENTED REALITY

There is an evolving expectation of being able to augment our immediate surroundings and realities with overlays, audio-visual filters and fun – and our growing ability to explore immersive media that entertains and educates us. How will employees learn new skills with augmented reality?

Customised reality

New tech is giving us more control over how we experience reality. Augmented reality (AR) technologies allow their users to alter what they see, hear, and even feel. Hearables, for example, adjust ambient audio frequency levels and promise real-time translation of spoken dialogue, while AR eyewear overlays imagery and information onto the world as you experience it.

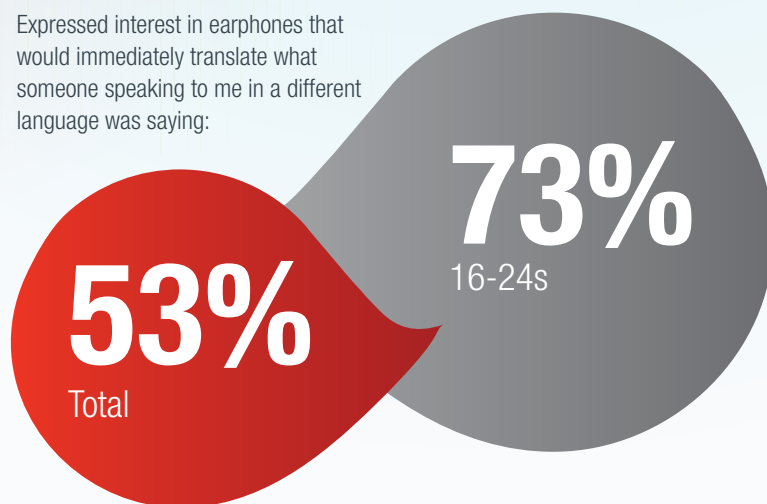
Reality becomes a spectrum. These technologies turn reality into a spectrum, where virtual adjustments can be dialled up or down. At one end of the spectrum lies full-blown immersion (for instance, via VR headsets); at the other lies “mixed reality”, where reality forms the backdrop to a rich and dynamic overlay of digital signage.

We predict that by 2022, 45% of GB consumers will have used a VR headset while a further 9% will be interested in doing so (Foresight Factory, 2017). Currently, AR is the more accessible medium as free apps can be easily downloaded and run on ever more powerful smartphone devices. AR apps that help shoppers preview purchases hold particular appeal: in 2017, 54% of consumers were interested in an AR app that could show how products look in the home. These headsets will be key for training new workers – engineering, aerospace, manufacturing, and other technology related professions will likely use some kind of extended reality device to manipulate digital objects without having to commit to real-world models.

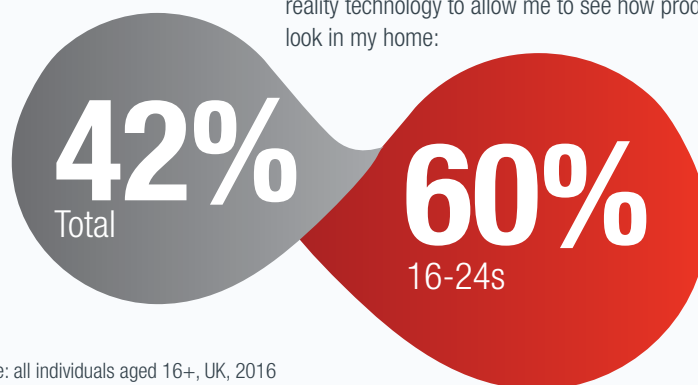


The reality of a customised world

Expressed interest in earphones that would immediately translate what someone speaking to me in a different language was saying:

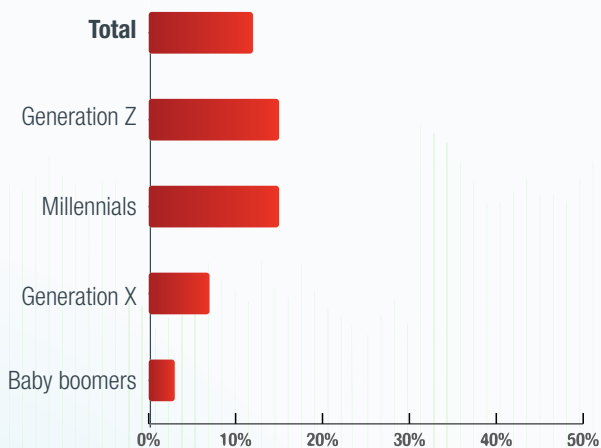


Expressed interest in a service that used augmented reality technology to allow me to see how products could look in my home:



Source: FF online research | Base: all individuals aged 16+, UK, 2016

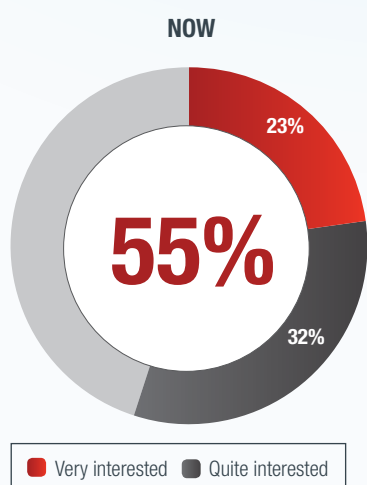
Ownership of VR headsets | 2019



Source: Foresight Factory | Base: 5000 online respondents per country aged 16+, GB, 2017 August

Data summary: Interest in augmented reality concepts

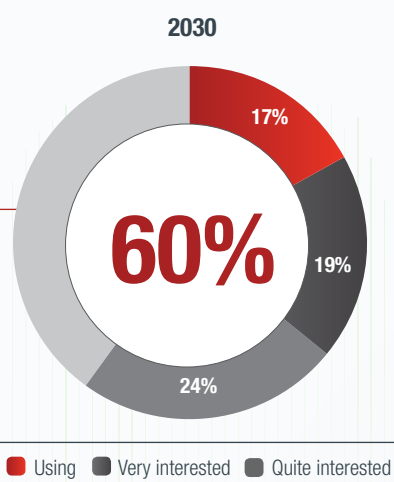
- Already, 55% of GB consumers are interested in the concept of using earphones that translate languages. Based on this interest, we forecast that by 2030, 17% will have used this technology and overall interest will increase marginally to 60% of British consumers.
- The use of this technology will bring down language barriers and enable employees to work cross culturally.



USE OF TRANSLATING EARPHONES

Influencing factors:

- Value of travelling for entertainment and frequency of travel
- Reliance on online resources when looking for answers
- Use of voice commands and smart assistants



Brand innovation and insight: Today's uptake of customised reality

In October 2018, ahead of Black Friday, Walmart sent Oculus Go headsets to all its locations in the US so that associates could train in the areas of empathy, compliance, and use of new in-store technology.

AR and VR headsets can enable employees to be trained without needing to be physically present in a location. Digital objects can be manipulated much more easily than physical ones, enabling employees to experiment more with how new practices and technologies might work.

In May 2019, Magic Leap announced that it was acquiring Mimesys, a Belgium-based startup specialising in spatial co-presence innovation.

Employees will also be able to collaborate more easily across space as well – geographic barriers may be removed as individuals find themselves able to work on the same projects and communicate effectively across large distances.

At the 2018 SXSW Festival, Bose unveiled a concept design that utilises its new Bose AR platform. The platform uses location data from embedded motion senses and a Bluetooth connection to feed audio segments to the wearer.

Launched in late 2018, Pocketalk is a smart device that instantly translates 74 languages. The device claims to be better than a phone app as it is more accurate, has clearer microphones and speakers, and is faster at translating. The device connects to the internet for access to high quality language engines that offer accurate translations.

Language barriers are a key issue that impede collaboration between individuals, and, as a result, language skills are in high demand. As simultaneous translation services develop and become more ubiquitous, individuals will no longer have the necessity of learning new languages in order to work for specific companies.

Language isn't the only factor when recruiting for interaction with other markets. While AR technology may disrupt the need for speakers of a specific language, employers will still need cultural knowledge to determine nuances in specific geographies.

Implications for tomorrow's talent

Location-independent talent

The rise of augmented and virtual reality will usher in a job market that is exponentially less location-dependent. Talent will be able to operate on different sides of the world at the same time, and information will become available in new experiential formats.

New skills required

The advent of commercially viable AR means that developers that can leverage AR and depth sensor technology will be in high demand. Integration with AI tools will also impact the skills necessary to engage with Customised Reality, with smart algorithms dictating what you see when. Mixed reality devices such as the Hololens 2 will enable the addition of digital tags on objects and new ways of manipulating digital objects in 3D. Learning how to use this type of technology will be critically important for employees, and employers may want to offer training to make sure their workforce is up to speed. Employees will be expected to be able to learn skills fluidly and quickly – similar to liquid skills. These skills will range from knowledge of how to fix various things (such as programs on a computer) to learning entire programming languages (sites such as Khan Academy or Coursera offer courses that are cheap or even free).

Thriving visual culture

The importance of visual culture will also thrive in an augmented reality context. With searchable images and shoppable videos, the job market will welcome those well-versed in the visual arts. Artistic skills such as graphic or web design will become much more sought after.

BLOCKCHAIN

Crowdsourced certainty and irrelevant intermediaries:
Blockchain-enabled smart contracts will enable workers in the gig economy
to work more freely and more reliably.

Rise of the Blockchain

It has now been several years since Satoshi Nakamoto published the whitepaper outlining a peer-to-peer electronic cash system and Bitcoin started appearing on news sites around the world. Though early adopters and online merchants are making good use of the Bitcoin cryptocurrency's fast, international transactions, it is Bitcoin's core technology that is now holding the greatest promise. This is the Blockchain – a distributed ledger spread across millions of machines and maintained day and night by them. Already, this new way of holding – and most importantly, certifying – information, is having profound effects on the financial services sector. You don't need a bank to certify how much money you have, or who you have sent it to. The Blockchain promises to do this. More quickly, more cost effectively and more infallibly.

And the Blockchain is now exciting innovators in all sectors, from data services to micro-working. At its core, the Blockchain has a very simple premise: there are new ways to be certain of things. There are new ways to store information, react when something happens, authenticate processes, and do it all more securely than ever before.

Blockchain applications will continue to grow as the widespread use of technology reaches more sectors and markets. Already some governments are using the technology, including China recently announcing the use of a new cryptocurrency, along with large corporations such as Facebook launching their own token. While individual coins and tokens may be a fad, the underlying technology is very likely to have longevity.

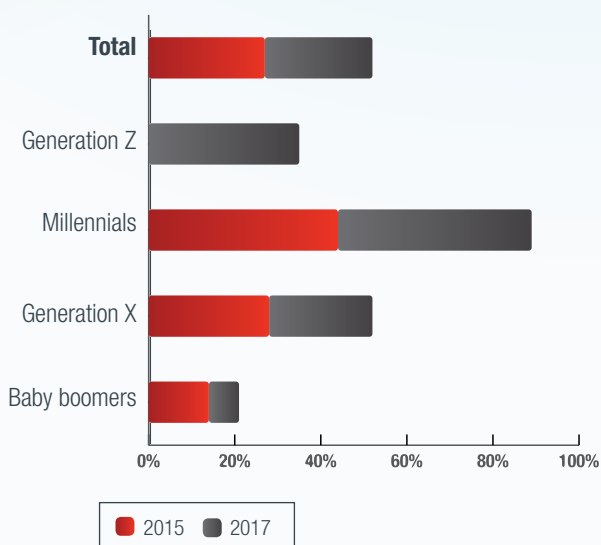
In five, ten, or 15 years, we might look back and think the Blockchain was when the information revolution really got started, and its impacts on the future workforce promise to be profound.



Is Blockchain changing everything?

How the technology has evolved

Uptake of Blockchain 2015-2017



Blockchain looking forward

Dubai govt. records on blockchain by **2020**

Crypto-currencies command well over **\$268b** market cap

4.7m

UK workers are in the gig economy

This is **4.4%** of the working population

The growth of the gig economy has changed the underlying structure of the whole UK economy – companies' ability to turn employee contracts on and off whenever they wish results in workers being unable to ask for pay rises, decreasing the responsiveness of wages to unemployment.

Source:

Foresight Factory | Base: 1000-5000 online respondents per country aged 16-64 (Indonesia & S. Africa 16-54), 2016 February

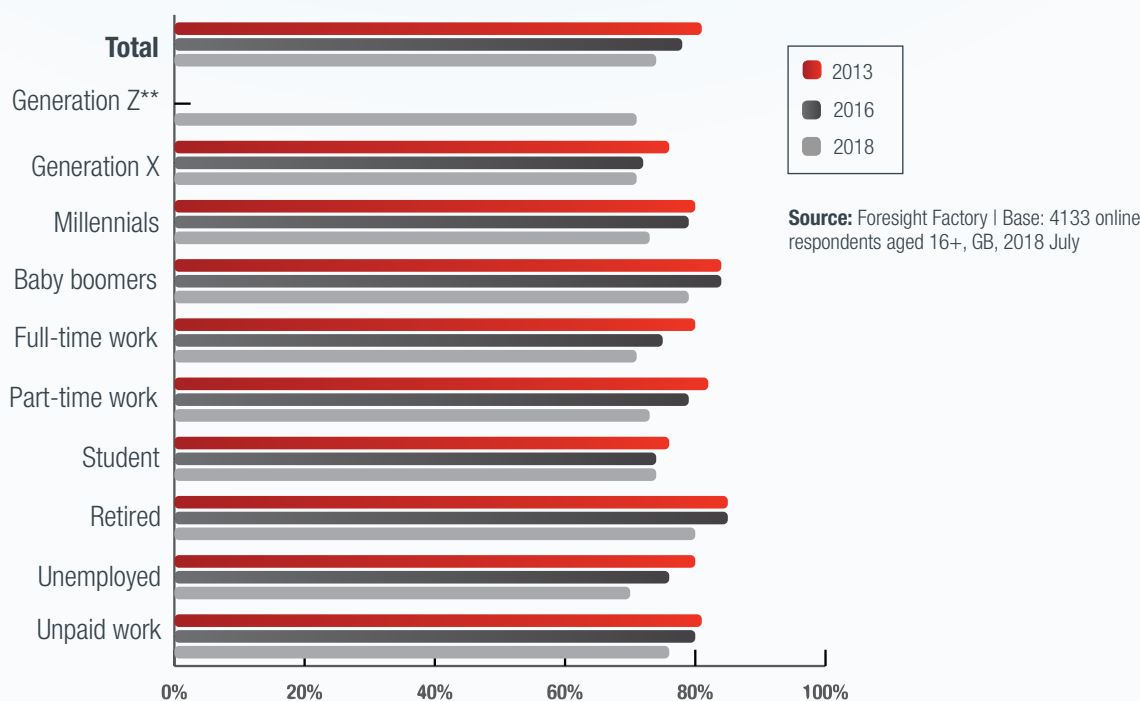
• <https://coinmarketcap.com/> • Foresight Factory | Base: 4305 online respondents aged 16+, GB, 2017 August • ONS, September 2017

Data summary: The expansion of Blockchain

- Blockchain enables greater control over the ownership and viewership of personal information through decentralisation and transparency by design. Concern over information privacy waxes and wanes with scandals, but, generally, the vast majority of consumers are usually concerned over the way it is stored.
- Peer-to-peer lending is most popular among younger consumers, but the availability of transparent financing will be enticing to all groups. Blockchain would enable peer-to-peer systems that are trustless and safe.

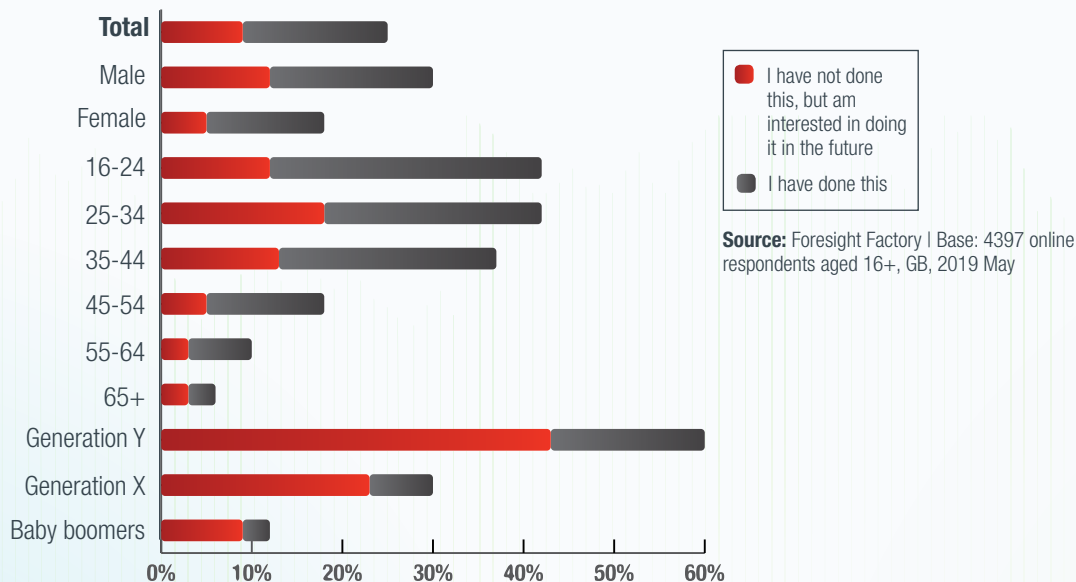
“I would like more control over the personal information I give companies and the way in which it is stored”

Percentage who agree strongly or agree



“Which of these things have you done already and which are you interested in doing in the future?”

Using a peer-to-peer lending website | 2019



Brand innovation and insight: Blockchain in the world today

In September 2018, Factmata closed a \$1m seed funding round to support the building of its news platform. The startup is building a “quality media ecosystem” with a combination of AI and a people-powered community.

Undertaking a pre-token sale in September 2018, TalentSnap is a blockchain-based system that uses AI to automate the hiring process.

The future of work will be affected by the ability to have a completely immutable record of your company's history as well as an immutable record of an employee's history. Prospective employees will be able to see companies how they really are and reputation will become even more essential in attracting talent.

Employers will be held to a higher level of accountability for their actions, as blockchain-based platforms are transparent by design. This transparency will also be true of other hiring areas, such as diversity and discrimination.

Steemit is a social network built on a blockchain. Its token structure means that content providers are rewarded for creating content and can get paid to participate in the network.

Zinc is attempting to redefine references by offering automated referencing tools that enable deep insights into candidates.

Lawyers will be under pressure from developers to put together smart, self-executing contracts, and all data-driven contracts will start to rely on sensors instead of people. Blockchain will enable greater oversight over contracts and make sure they are standardised.

Steemit is a manifestation of a time when the token structure of companies can dictate the revenue of the value creators. In this world, people can earn a living in true peer-to-peer fashion, not mediated by a corporation. Blockchain-based contracts and token structures will give individuals visibility over value and revenue.

Implications for tomorrow's talent

Differentiation

To differentiate, some companies will choose to dramatically increase how much information they share with the world – from product ingredients to carbon footprint to corporate pay. Consumers are already choosing brands based on their green credentials – this has spread to employers as well.

The end of middle men

Keeping a record of activity transparently and securely will lend itself to a world in which intermediaries are increasingly under pressure to show their value. Verifying information and being the trusted intermediary is becoming increasingly obsolete with the birth of blockchain. Peer-to-peer relationships are no longer as risky and untrustworthy as they have been on the internet. With the advent of Amazon, Alibaba, and Google over the last 15 years, disintermediation has been the most disruptive change to happen to the consumer market, and businesses are finally catching up to and embracing disintermediation. This disruption will and has been continuing into the labour market as well – the outsourcing of certain business functions such as HR or operations means that the workforce will have a very different appreciation of those roles: some employees may view it as a non-strategic function that is only brought in for specific tasks.

Mechanised truth

In a society in which trust in traditional sources of authority is suffering, new routes to commercial truth-building are gaining popularity. Blockchain technology heralds a future in which truth is tangible and mechanised, creating a new relationship between people and the companies they work for.

Conclusion

It is always fascinating to future-gaze at the brave new world of technology, but it is also important to understand that these key advancements are revolutionising recruitment like never before. In this fast-paced world, anything which actively encourages efficiency, whilst enhancing the core facets of human communication, is always going to be welcome. At PageGroup, we've been at the forefront of embracing a range of new tools and techniques in recent years, and we expect this to gain momentum as we enter the new decade.

Here are a few key technology shifts happening right now:

Video technology

The advent of video technology has been quietly revolutionising the hiring process in recent years. Video platforms such as HireVue and Hinterview have seen a steady increase in usage rates by our consultants of between 25% - 35% each month. It is the speed and efficiency of these platforms that are most attractive to recruiters, and we're increasingly seeing more roles advertised through videos posted on social. This allows consultants and hiring managers to give a personalised overview of a company and role. Equally, once applications have been received, video platforms also allow consultants to assess candidates remotely. Of course, few employers would hire someone based on video and remote communication alone – the later stages in any recruitment process should always be conducted face-to-face. But what we are clearly seeing is that video interviewing speeds up the recruitment process and widens the scope of the talent pool.

Nick Kirk, UK Managing Director, PageGroup, comments: "I've been with PageGroup for 25 years. Although I've seen the recruitment process evolve in many ways, at its core it remains very much the same: it's all about people. However, the methods by which you interact have adjusted and changed. When I first started, we didn't have mobile phones. This meant we had to call candidates at work or at home, and if they were commuting, you couldn't get hold of them at all. That changed. Then we had email; that changed our ability to engage. Now it is video that has a key role to play in better facilitating that human-to-human interaction."

AI job matching

Submitting a CV remains the first step for a candidate applying for a role. Although platforms such as LinkedIn have evolved and enhanced this simple process, in many ways CV submission has remained a cornerstone of applying for a job. However, the way that candidates use their CVs and recruiters assess them, has evolved rapidly thanks to AI. For example, at PageGroup we launched our [Job Match](#) tool in 2018, which takes the hard work out of deciding on a next career step. Once candidates have signed in and submitted their CV into the tool, it matches them to roles that fit their skills and experience, leading to a more efficient process on both sides. As the speed and accuracy of AI evolves over the coming years, we expect the process to be refined further.

Kirk concludes: "We all know that AI and machine learning are leaking into all aspects of life, and recruitment is no different. I don't see technology moving to a point in the next five years or so where human interaction can be replaced. I think people still expect, when they're making one of the biggest decisions of their life in terms of changing jobs, to not be driven solely by an algorithm."

For a confidential discussion about your hiring challenges and how to attract and retain the best talent, **[please contact one of our specialist recruitment consultants](#)** today.



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