



THE UK'S £92BN DIGITAL OPPORTUNITY



JOHN CRIDLAND

CBI DIRECTOR-GENERAL

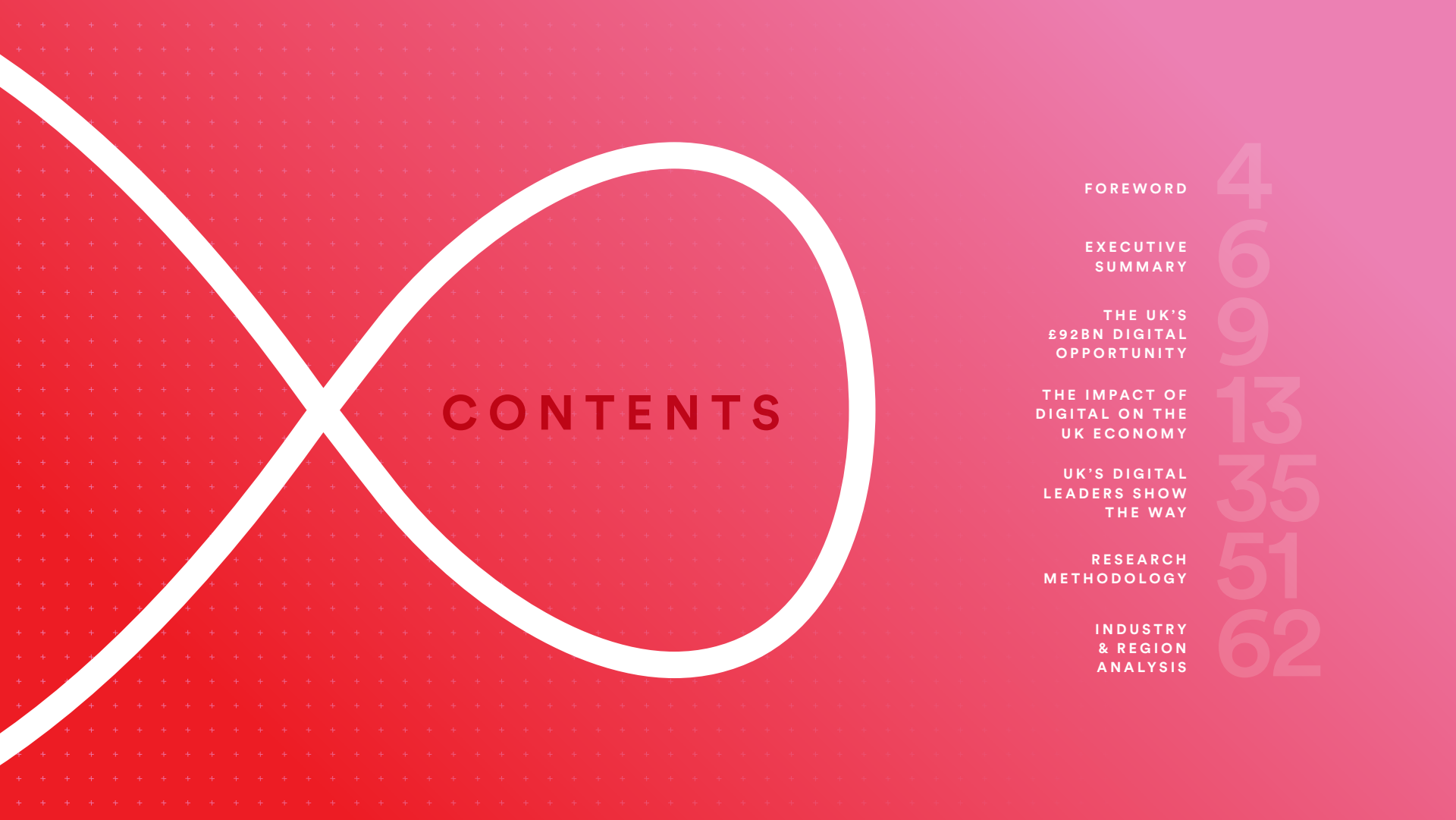
“This report reveals a huge Digital Opportunity for UK businesses. Both the public and private sectors have much to gain from harnessing the benefits of digital technology. The UK is the tech capital of Europe but digital advances never stop, so if we want it to stay ahead we need more young people studying computing to a higher level. Looking into the future, the proposed EU digital single market, if delivered well, would be great news for both business and consumers, reducing barriers to e-commerce across the continent.”



JOHN ALLAN

FEDERATION OF SMALL BUSINESSES
NATIONAL CHAIRMAN

“Small businesses face challenges when it comes to digital technologies, from access to ultrafast broadband to finding staff with the right skills. This report shows that if they can overcome these, it will greatly enhance their opportunities for growth. The FSB calls on the Government and industry to continue helping our small businesses achieve their full digital potential in the years ahead.”



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FOREWORD

SO QUICK IS THE CURRENT PACE OF DIGITAL CHANGE IN THE UK THAT A QUARTER OF BUSINESSES ARE NOW UNSURE WHAT THEIR INDUSTRY WILL LOOK LIKE IN A YEAR'S TIME.

Y

es, you read that correctly: this report highlights that the scale and scope of digitalisation across all sectors means that 25% of businesses are unsure what their industry will look like next year.

The only reasonable response is that all firms must start to front-load digital capabilities to keep pace. This report makes the outlook very simple: think big, think bold, think digital. If a business properly invests to become a digital leader then, among many other benefits, its revenues are likely to go up and their costs are likely to go down. Firms across all regions and from all sectors who have attained the edge digitally have increased their revenues by 5.3% and reported savings of 5.5%. These figures are respectively 36% and 34% better than non-digital leaders.

There are two key elements at play here. The first is that by improving the bottom line, a self-perpetuating financial advantage kicks in the cumulative effect of which would be worth an extra £92bn a year to the UK economy. The second is that digital success is not just about being a tech firm, the Digital Opportunity is for every business: from the favourite neighbourhood takeaway to the multi-national services firm. This latter point matters a lot.



FOREWORD [CONTINUED]



We're talking here specifically about how digital capability is changing the rules of competitive advantage in all sectors. We've seen digital famously revolutionise markets in traditionally non-digital non-tech sectors by Ocado, iTunes, Airbnb and Uber.

Although these examples certainly attest to the power of digital to be hugely disruptive, the idea posed by this report is not that all firms should be an Ocado or an Airbnb, nor that real change can happen only in exceptional circumstances. But rather that all firms can and should learn from them and digital leaders like them. They underpin the spirit that is the future of commerce.

Our hyper-connected world is one where business products are now created collaboratively using functions like open source software and hosted on cloud-based platforms, where phones are becoming wallets, and where YouTubers are more famous with kids than their TV and film equivalents.

Virgin Media's cable network is a fundamental part of the UK's technological infrastructure: what we provide is the potential for businesses to become digital leaders.

Our role is to be part of the connectivity infrastructure solution. 85% of businesses in the UK are able to access our network and for the next five years we're spending £3bn expanding it. But that's only part of the story.

Virgin Media Business also offers high performance digital platforms, including integration and collaboration services, to help firms get further toward achieving broader and better digital capabilities. We can help you to think big, think bold, and think digital. We're standing ready to help you become a digital leader.

I would like to extend my thanks to Oxford Economics for producing such a well-researched and thought-provoking report. It interviewed over 1,000 UK-based companies, and this report measures the extent to which they are making the most of the opportunity provided by digital, and highlights significant and interesting differences by industry, region, and company size. There is much to learn and many opportunities to grasp from the conclusions ■

PETER KELLY
MANAGING DIRECTOR,
VIRGIN MEDIA BUSINESS

"FIRMS ACROSS ALL REGIONS AND FROM ALL SECTORS WHO HAVE ATTAINED THE EDGE DIGITALLY HAVE INCREASED THEIR REVENUES BY 5.3% AND REPORTED SAVINGS OF 5.5%."

85%
**OF BUSINESSES
IN THE UK ARE
ABLE TO ACCESS
OUR NETWORK.**



EXECUTIVE SUMMARY

BUSINESSES IN ALL SECTORS ARE INVESTING IN THEIR DIGITAL CAPABILITIES.

The rise of digital is generating enormous, and enormously positive, benefits across the UK. What this report makes clear is that the digital revolution has now extended far beyond the tech sector to become an essential part of doing business for all firms, in every industry, and across all regions. While the majority of businesses would still not describe themselves as “primarily” digital, our research shows that all companies are actually applying digital technologies to some degree, and some much more successfully than others. Firms are rightly looking to secure their share of the benefits that digital capabilities can provide. ►►

75%
**OF FIRMS REPORT
SIGNIFICANT
INCREASE
IN DIGITAL
CONTENT IN
THEIR INDUSTRY.**

EXECUTIVE SUMMARY [CONTINUED]



INVESTMENT IN DIGITAL CAPABILITIES CAN REAP REWARDS FOR BUSINESS.

Businesses are investing in fast and reliable technology, as much as in building more efficient relationships with customers and establishing more flexible ways of working. Across all firms, these digital capabilities encourage many benefits, and most impressively a significant boost to bottom line improvement. The rewards can be greater still, depending on the extent to which digital capabilities are prioritised. This report explores that distinction.

But it's not just about bottom-line performance. Digital capabilities also help companies to strengthen their competitive position – reach new customers, improve supply chains, and create a happier workforce. These broad benefits hold importance for commercial success in the long run.

DIGITAL LEADERS ARE THOSE FIRMS PRIORITISING INVESTMENT IN A BROAD RANGE OF CAPABILITIES.

Digital leaders appreciate the value of the full breadth of digital capabilities to a far higher extent than other firms. More than 95% of them rate each of our capabilities as important, compared with 50% to 60% for other firms. They invest no more money than other firms in technology, but they spend it more wisely and so achieve better results, and they achieve better financial improvements which average out at more than 30% higher than other firms.

HOW FAR AWAY ARE MOST FIRMS FROM BECOMING DIGITAL LEADERS?

This research highlights a large gap between companies' current strength in digital capabilities and where they would like to be in three years' time. The greatest concern for most firms is around technical infrastructure, closely followed by worries that they aren't offering appropriate pay, conditions, or career developments to attract the key staff they need. A common underlying fear is of being left behind by the rapid pace of technological change.



87%

OF DIGITAL LEADERS SAID THAT INVESTMENT IN DIGITAL CAPABILITIES HAS RESULTED IN A HAPPIER AND MORE ENGAGED WORKFORCE.

92%

SAID THEY HELPED REACH NEW CUSTOMERS.

93%

SAID THEY IMPROVED THE QUALITY OR EXPERIENCE OF THEIR PRODUCTS OR SERVICES.

EXECUTIVE SUMMARY [CONTINUED]



HOW CAN FIRMS GET THERE?

The example currently being set by digital leaders is one to follow – businesses should recognise the importance of harnessing the full range of digital capabilities. And they should develop a convincing business case, based on their strategic priorities, as well as identifying the benefits that digital can provide. These will help not only to secure funds, but focus management attention on achieving results.

THE UK-WIDE BENEFITS OF DIGITAL AND THE OPPORTUNITIES IT PRESENTS.

The contribution of digital capabilities should not be underestimated.

- They are generating £123 billion in performance improvements across the economy: equivalent to 3.4% of total GDP last year alone.
- Companies project that over 1 million new jobs could be added as a direct result of enhancing their digital capabilities over the next two years.
- Could provide a further annual boost of £92 billion to the economy if firms were able to fully develop their digital potential. This is equivalent to 2.5% of GDP.

SMES WILL LEAD THE WAY TO GROWTH BUT MORE CAN ALWAYS BE DONE TO HELP ALL FIRMS.

Larger firms, on average, have stronger digital capabilities but SMEs are striving to close the gap. They plan to increase staff by 6% over the next two years by employing more people with digital skills - three times the increase planned by larger firms.

The UK already possesses considerable technological and economic strengths, and companies are eager to get the most out of their digital investments. This report highlights themes for future discussions on how to best support the UK digital growth. With the potential of yet more technological breakthroughs, there are vast opportunities that the nation should be poised to seize ■

£123BN
CONTRIBUTION.
£92BN
OPPORTUNITY.
1M
JOBS.



1

THE UK'S £92BN DIGITAL OPPORTUNITY

“WE HAVE SURVEYED OVER
1,000 COMPANIES OF VARYING
SIZES ACROSS INDUSTRY
SECTORS AND ALL
REGIONS OF THE UK.”



THE UK'S £92BN DIGITAL OPPORTUNITY

THE MAJORITY OF FIRMS DESCRIBE
THEMSELVES AS PROVIDERS OF
NON-DIGITAL PRODUCTS AND SERVICES.
BUT ALL COMPANIES ARE SEEKING THEIR
SHARE OF THE UK'S DIGITAL OPPORTUNITY.

This report tells an optimistic story of how digital technology is affecting business. It comes from the research undertaken here at Oxford Economics. We have surveyed over 1,000 companies of varying sizes, across industry sectors, and all regions of the UK. We asked how digital technologies are disrupting their industries, how business performance is being affected, the actions companies are taking to respond, and their plans for the future. ➡➡

THE UK'S £92BN DIGITAL OPPORTUNITY [CONTINUED]



We have deliberately used an expansive definition of “digital” for the purpose of this research¹ allowing us to consider how all UK-based companies could get the most out of digital. We are seeing the emergence of new companies using digital in innovative ways, introducing new business models, or delivering their products and services in digital form. Our research shows, however, that these “mostly digital” firms remain in the minority. While we expect that these companies will increase as a share of the UK economy in the years ahead, a large number of firms will never describe themselves as “digital firms.”

Yet all companies, including the 57% of our sample that currently provide mostly non-digital products and services, are seeking to gain their share of the UK's Digital Opportunity. That is, the potential additional benefit that would accrue to the economy if all companies reached their digital potential.

Our research highlights six digital capabilities that companies are building to get the most out of the Digital Opportunity (see **Sidebar 1**). These include technical equipment, infrastructure, and software, but also the softer skills and behaviours needed to identify and respond to the emerging market opportunities and threats that digital presents.

In **Section II** of this report, we estimate the impact of digital technologies on the UK economy. We calculate the contribution to business performance and, through aggregation, estimate the overall impact on GDP. We also examine the outlook for jobs over the next two years. We then estimate the Digital Opportunity as the potential benefit that would accrue to the economy if all companies could reach their digital potential. We further analyse these results by industry, region, and company size. And we conclude with several suggestions that could help the economy achieve its potential.

In **Section III** we identify a group of digital leaders across the UK that currently gets the most out of these digital opportunities. We describe what these leaders are doing differently, and provide guidance to other companies seeking to improve their own performance and seize the Digital Opportunity ■

“WE ASKED HOW DIGITAL TECHNOLOGIES ARE DISRUPTING THEIR INDUSTRIES, HOW BUSINESS PERFORMANCE IS BEING AFFECTED, THE ACTIONS COMPANIES ARE TAKING TO RESPOND, AND THEIR PLANS FOR THE FUTURE.”

¹ Including all activity that uses computer and communications equipment to work with information in digital form.

WHAT ARE DIGITAL CAPABILITIES?

THIS RESEARCH HIGHLIGHTS SIX KEY DIGITAL CAPABILITIES.

Technology infrastructure

Information and Communications Technology (ICT) equipment that helps the company access, store, process, share, and present information in digital form. It includes communications infrastructure, hardware and software. The technology may be owned by the company or accessed on demand (e.g. cloud storage or Software as a Service).

Digital workforce

A company's ability to attract and get the best out of staff with key digital skills, through attractive conditions and work environment. Key digital skills are broadly defined to help companies get the most of digital technology and new market opportunities, including ICT skills, software engineering, information management, data mining and analytics, digital marketing and social media analytics.

Digital information

A company's ability to source, access, process, consolidate and analyse digital information for commercial advantage. Factors for success include a clear strategy on how information is used, governance processes to maintain data quality, data security and privacy policies. Companies will also benefit from underlying specialist technology required to collect, process and analyse raw data and turn it into valuable information.

Digital strategy and leadership

The ability of a company's leadership team to understand how digital is changing their industry, to develop appropriate strategies and plans in response, and implement changes quickly and successfully. This requires market intelligence, an effective leadership team, and a flexible organisation that adapts readily to change.

Open and collaborative partnerships

How effectively a company collaborates with external partners through information sharing or more formal partnership arrangements. Examples include using crowdsourcing platforms or working with universities to encourage product innovation.

Digital customer engagement

A company's use of digital channels to engage with their customers to improve customers' digital experience, to gain greater insight into customer needs, and to use this to improve product or service quality.



2

THE IMPACT OF DIGITAL ON THE UK ECONOMY

“WE ARE SEEING MORE AND MORE NEW COMPANIES APPLYING INNOVATIVE TECHNOLOGIES TO TACKLE A WIDE RANGE OF INDUSTRY CHALLENGES.”

ADIZAH TEJANI, HEAD OF ECOSYSTEM DEVELOPMENT, LEVEL39

THE IMPACT OF DIGITAL ON THE UK ECONOMY

“AS A DIRECT RESULT OF
DIGITAL INVESTMENTS,
COMPANIES EXPECT TO
CREATE MORE THAN
A MILLION NEW JOBS
ACROSS THE UK OVER
THE NEXT TWO YEARS.”

We asked over 1,000 UK-based companies to estimate the direct contribution digital technologies made to their financial performance in the past year. They told us that digital capabilities helped them increase their revenues by 4.4% and reduce their costs by 4.3%. By aggregating these results across the private sector, and controlling the results to take account of industry competition and other effects, we were able to estimate the likely impact on the economy as a whole.

1.1M

THE NUMBER OF EMPLOYEES COMPANIES
ANTICIPATE HIRING AS A DIRECT RESULT
OF DIGITAL INVESTMENTS.

By this calculation, digital capabilities contributed £123 billion to the UK's economy last year, equivalent to 3.4% of GDP. We then asked companies to estimate how digital is affecting their hiring plans over the next two years. Some jobs will become obsolete, averaging approximately 2% or 300,000 jobs across all industries. But this level of job loss is far outweighed by the number of employees companies anticipate hiring as a direct result of digital investments. Aggregating across the economy, these new hires amount to 1.1 million: a net creation of 800,000 new jobs.

Companies tend to be somewhat over-optimistic when forecasting, but this figure nevertheless demonstrates a level of confidence in the potential of digital to create jobs. Finally, we asked firms to estimate the potential improvement that would accrue to their financial performance if they had access to the best available digital capabilities. By aggregating these responses, we estimate that if businesses were able to take advantage of the Digital Opportunity, the economy would be boosted by a further £92 billion per year, equivalent to 2.5% of GDP. These results were analysed by industry sector, region, and company size to pinpoint how different parts of the economy are responding to the digital transformation, and the challenges of implementation. This enabled us to identify the areas of greatest potential, and to highlight where actions are most needed ■

THE UK'S DIGITAL ECONOMY IS ACCELERATING, EVERYWHERE

Using standard industrial classifications² to look across different industries, our research indicates that ICT, financial services, transportation and storage, and professional and tech services have been subject to the greatest disruption (see Fig. 1). It is also clear that all industries are being affected to some extent by digital transformation, with the majority of respondents in all sectors (and 75% overall) reporting a significant increase in digital content. Half of all respondents say that digital is leading to an increase in competition, with 43% reporting new competitors. And the pace of disruption is forecast to increase significantly: one in four respondents say they are unsure how their industry will look in a year's time. As one director of a mid-sized London music company explains, "We have had to transform or disappear." ➡➡

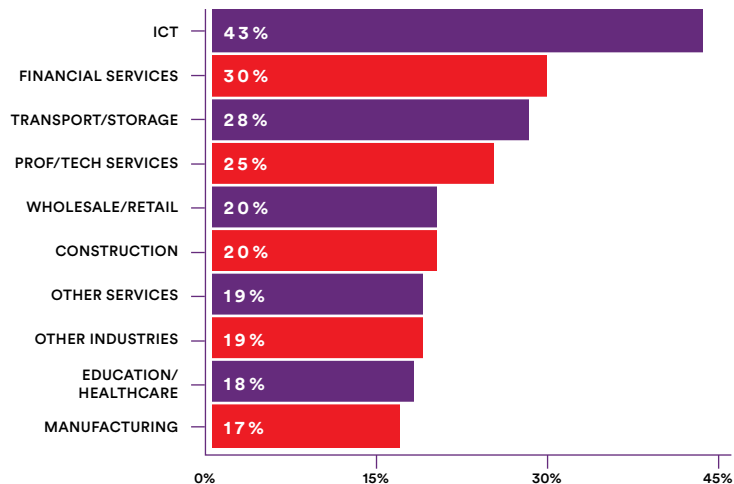


FIG. 1

Industries that have been subject to significant disruption from digital technologies in the past three years.

% figures include respondents who said they agree & agree completely

² A summary of SIC codes is included in section IV. For a detailed breakdown, see ONS standard definitions at: http://www.neighbourhood.statistics.gov.uk/HTMLDocs/SIC/ONS_SIC_hierarchy_view.html

THE UK'S DIGITAL ECONOMY IS ACCELERATING, EVERYWHERE [CONTINUED]



We asked firms to classify themselves by how they were using digital technologies. Only 14% describe themselves as “primarily” providers of digital products and services. An additional 29% include a significant amount of digital content in their products and services. The remainder use digital technologies to varying extents across different platforms.

But our research shows that even these companies are generally enthusiastic about the potential offered by digital technologies. More than three-quarters saying that digital is a positive influence on their industry, and half saying it should lead to improved employment prospects. London leads as the location with the greatest number of digital firms. A high percentage of London-based firms describe themselves as digital providers, and an increasing number provide a significant amount of digital content (together, they comprise more than half of the firms in London).

Many other regions don't lag that far behind. For example, 46% of North East firms are either digital providers or provide significant digital content, and Yorkshire and the Humber holds the highest share of digital providers (22%). Wales, Scotland, the South West, the East, and the

North West have a higher percentage of digital providers than the South East (see Fig. 2). In section III, we look across all firms (including those that primarily deliver non-digital products and services) and identify the leading

digital firms as those that are getting the greatest benefit from deploying digital technologies (see Fig. 11). Though the distribution of these firms is different, they also show an even spread of good digital practices across the UK ■

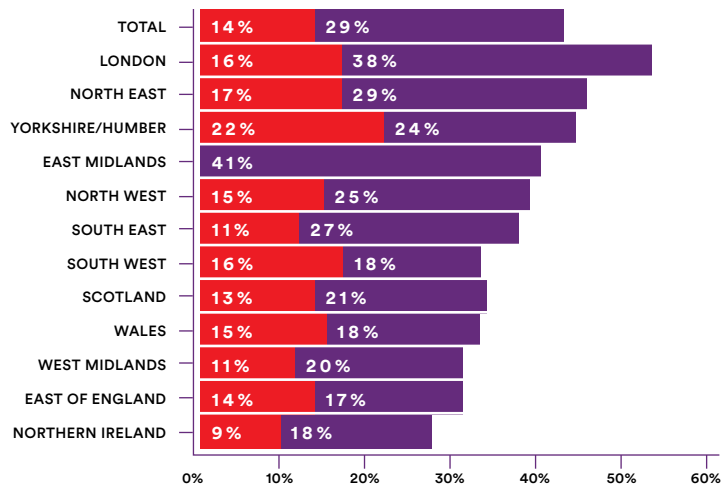


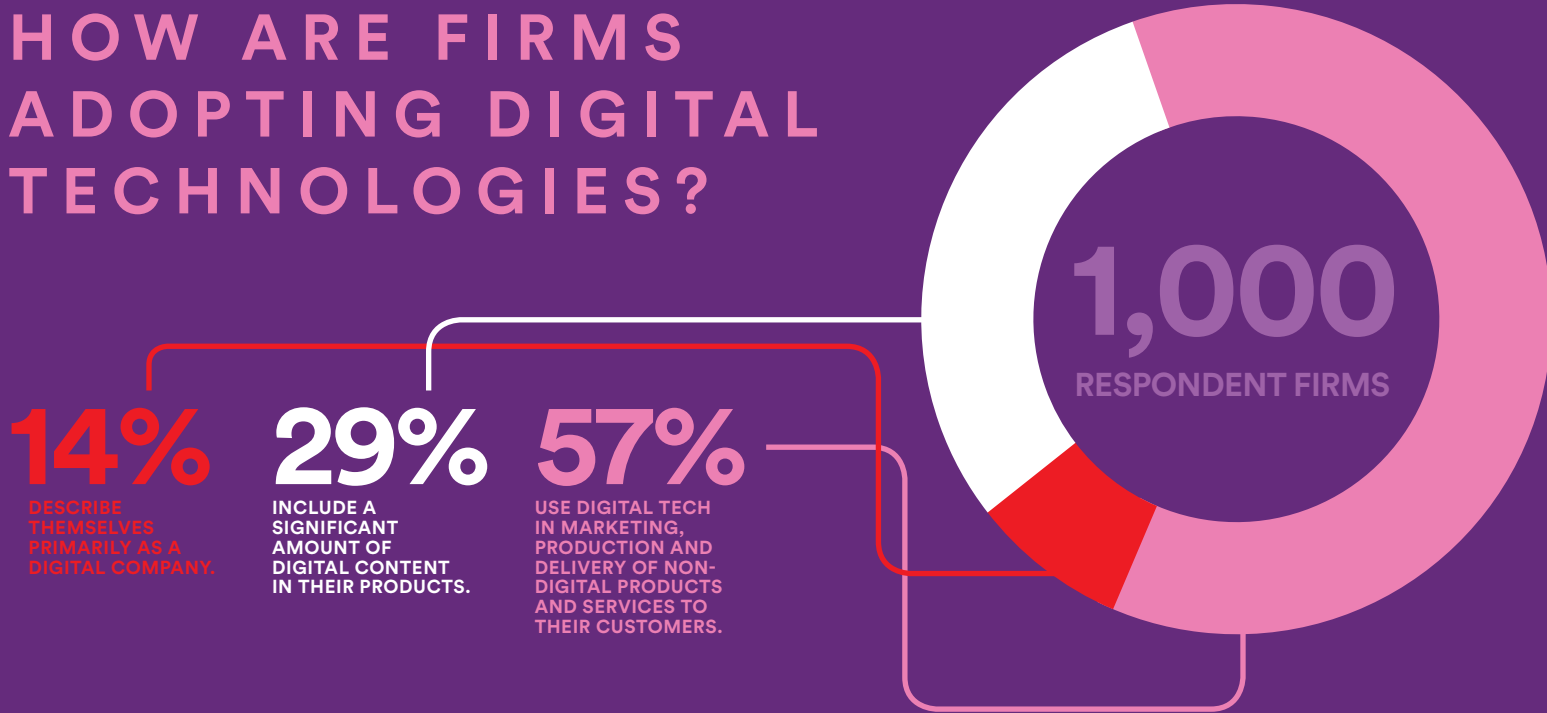
FIG. 2

Describing if their company primarily:

- provides digital products and services
- provides digital content as part of its range of products and services

Note: Due to small sample size, results for Northern Ireland and North East are directional only.

HOW ARE FIRMS ADOPTING DIGITAL TECHNOLOGIES?



ECONOMIC IMPACT OF DIGITAL – BY INDUSTRY

Professional and Tech services firms (including accountants, lawyers, designers, advertising agencies, engineers, and IT consultants) generated £35 billion over the last year, the largest share of the income gain from digital capabilities (see Fig. 3). They are followed by Wholesale and retail companies, which contribute about half as much revenue from digital sources. However, if the calculation is based on percentage terms, Construction reports the greatest increase, at 5.9%. All sectors boosted their income by 3%–6% last year ■

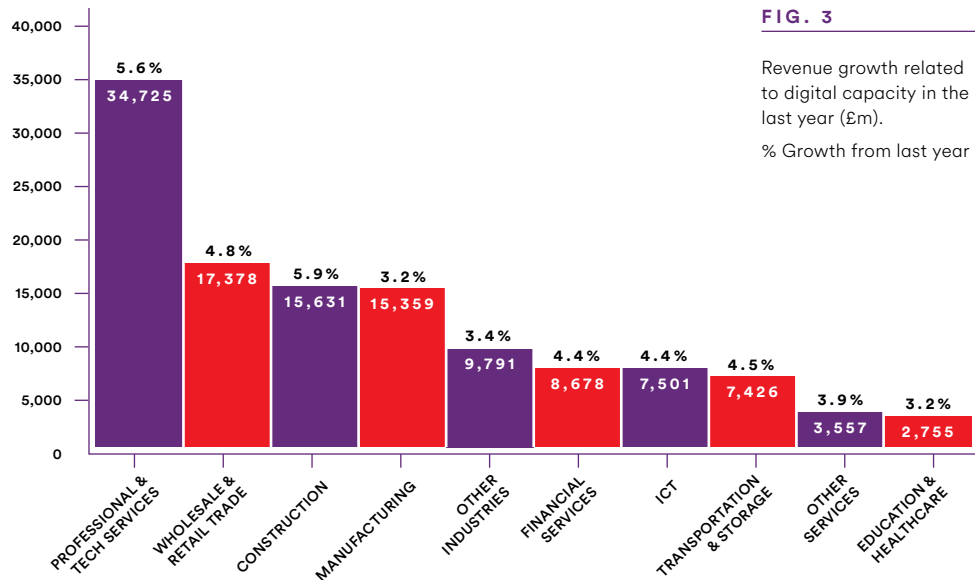


FIG. 3

Revenue growth related to digital capacity in the last year (£m).

% Growth from last year

ECONOMIC IMPACT OF DIGITAL – BY REGION

London's hefty share of the UK economy means that it comfortably provides the greatest increase in regional GDP through its digital capabilities (see Fig. 4). When we look at the percentage increase attributable to digital, however, the results are differently distributed, with London and the South East around the middle, and Wales, Scotland, South West, and the East of England reporting larger percentage gains ■

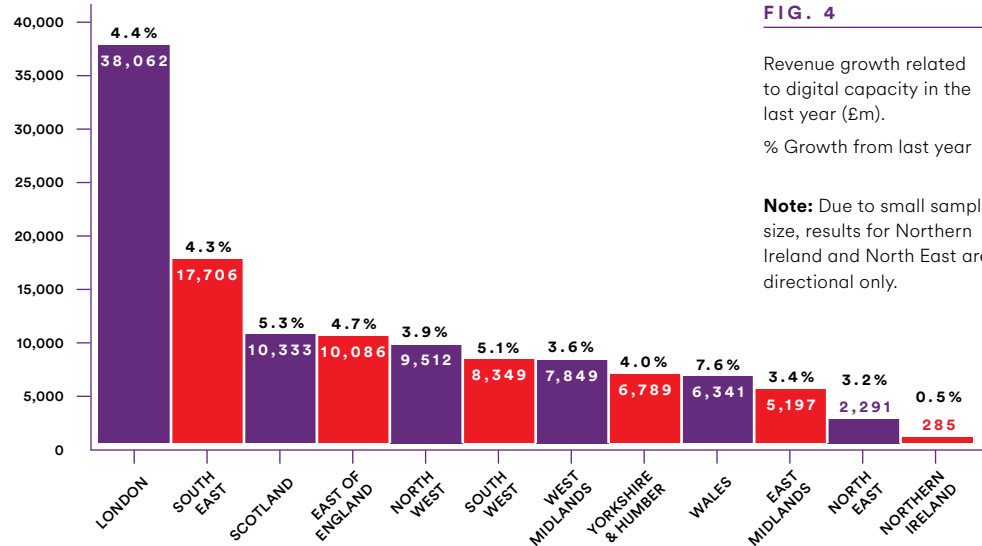


FIG. 4

Revenue growth related to digital capacity in the last year (£m).

% Growth from last year

Note: Due to small sample size, results for Northern Ireland and North East are directional only.

A POSITIVE OUTLOOK FOR JOBS

ACROSS INDUSTRIES, ICT FIRMS WILL BE THE GREATEST EMPLOYMENT GENERATORS OVER THE NEXT TWO YEARS IN PERCENTAGE TERMS.

Over the next two years, firms expect to employ many more people as a direct result of investing in new digital technologies. Though respondents did not specify the types of new job for which they will hire, we expect them to be a combination of highly technical (e.g., software engineers, data scientists, advanced manufacturing experts) as well as managerial and professional jobs.

At Ocado, the world's largest online grocer, Chief Technology Officer Paul Clarke has a particular need for high-quality software engineers. "We look for craftsmen who are passionate about identifying better ways to do things and who want to develop products that work," he says. "They need to be fast learners, self-starters, and entrepreneurial" ■

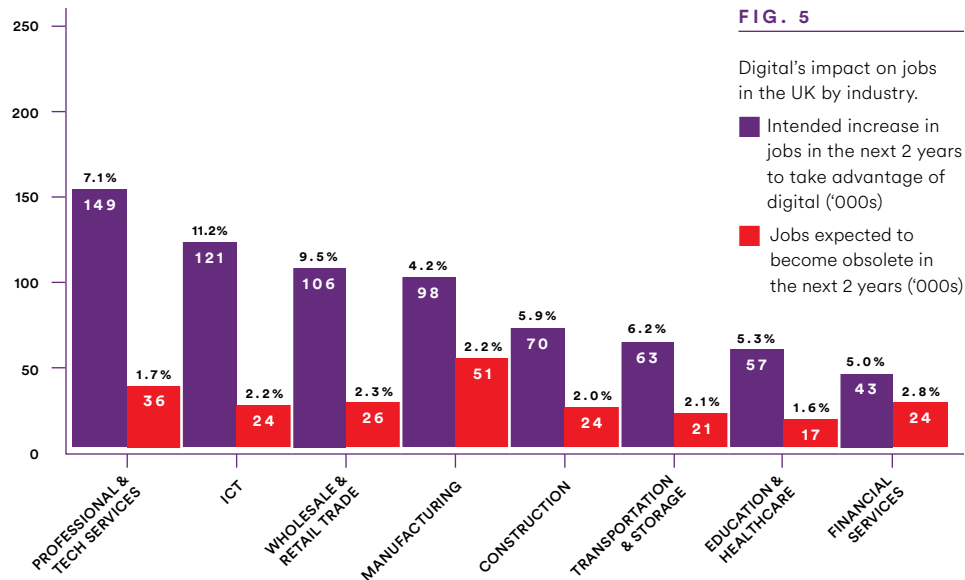
56%

OF FIRMS EXPECT DIGITAL
WILL LEAD TO MORE AND
BETTER EMPLOYMENT
OPPORTUNITIES.



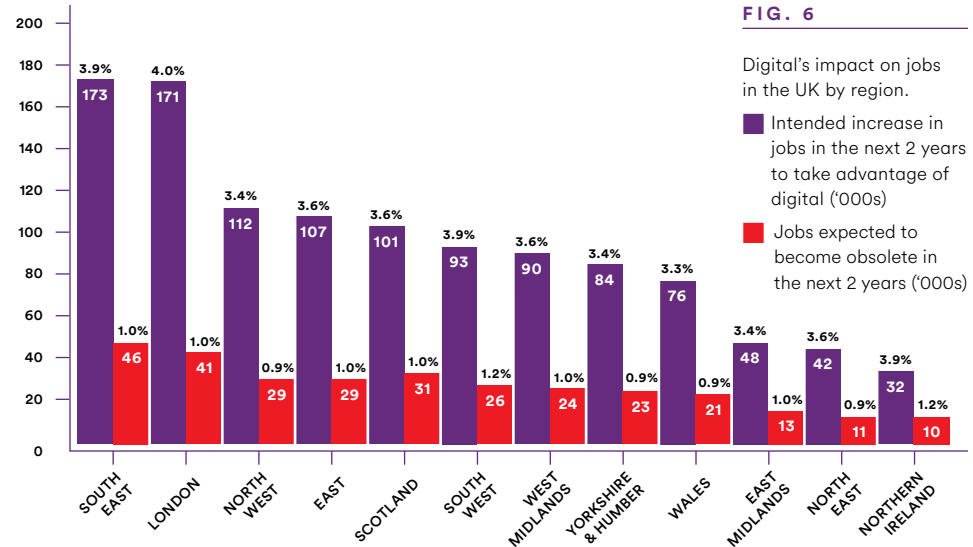
DIGITAL IMPACT ON JOBS – BY INDUSTRY

Companies also report that, as digital technologies disrupt industry, some jobs will become obsolete. However, 44% of respondents expect no jobs to become obsolete, while across all industries the number of new jobs created far exceeds the number of jobs expected to be lost (see Fig. 5). ICT firms will see the greatest percentage increase in employment over the next two years, with Wholesale and retail also expecting a particularly large (9.5%) increase ■



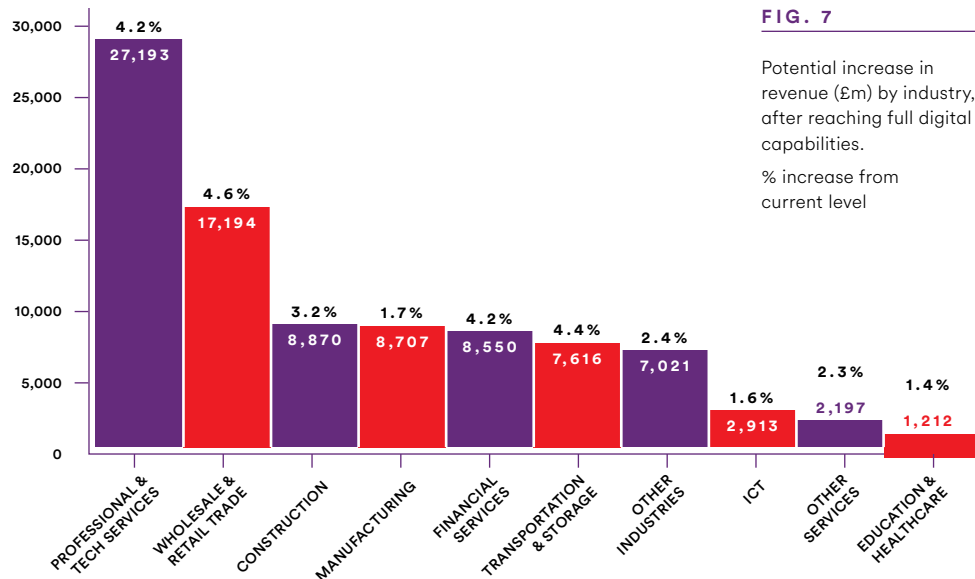
DIGITAL IMPACT ON JOBS – BY REGION

Both London and the South East project adding over 170,000 new jobs in the next two years, and report the largest percentage increase in employment: at 4% and 3.9% respectively. Other regions are not far behind with both Scotland and Northern Ireland reporting similar increases, and all regions reporting growth in excess of 3%. To identify the steps that could help the UK economy achieve this potential, we reviewed where the opportunities are greatest and identified the obstacles holding back industries, regions, or companies ■



DIGITAL OPPORTUNITIES ACROSS ALL INDUSTRIES

The Digital Opportunity is greatest for professional services firms. We estimate that deploying full digital capabilities could add £27 billion a year in industry revenues (a 4% increase). The wholesale and retail sectors would benefit by £17 billion (an increase of 5%), while manufacturing and construction would see an almost £9 billion increase. financial services (4%) and transportation and storage (4%) also show the potential for significant revenue gains of between £8 billion and £9 billion a year ■

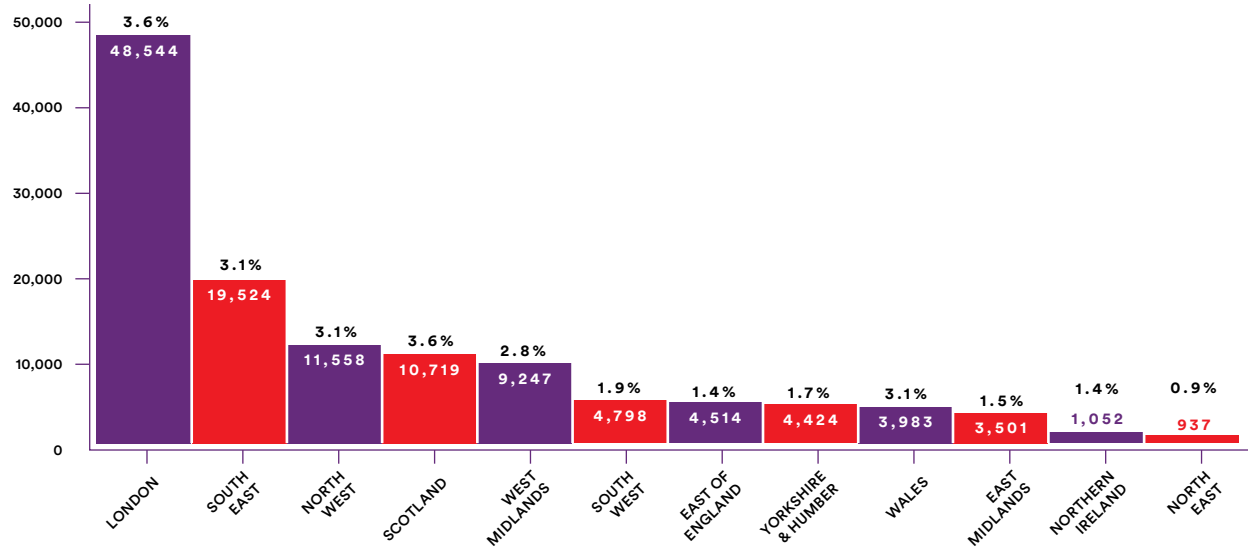


DIGITAL OPPORTUNITIES ACROSS ALL REGIONS

FIG. 8

Potential increase in revenue (£m) by region, after reaching full digital capabilities.
% increase from current level

Note: Due to small sample size, results for Northern Ireland and North East are directional only.



A TALE OF THREE INDUSTRIES

A SNAPSHOT OF THREE VERY DIFFERENT INDUSTRIES OFFERS INSIGHTS INTO HOW THE UK ECONOMY IS BUILDING ITS DIGITAL STRENGTH, AND ILLUSTRATES SOME AREAS THAT DEMAND GREATER FOCUS.

The financial services industry

is highly dependent on data for its business. Respondents are positive about the contribution digital technologies offer, anticipating high levels of digital content and more competition. **“Big Data has made a revolutionary change in the whole process of the company—we are analysing things much faster than previously. It helps us penetrate new markets,”** explains a director of a boutique London-based financial services firm. But half of the financial-services respondents raise concerns about the impact of regulation and privacy and security (far higher than the average of 37%), which suggests a need for smarter supervision.

Transportation and storage

has changed rapidly as a result of digital innovations (like “smart” inventory tags, route optimisation, and the Internet of Things). **“We can check in real time where our products are, how they are doing, and change anything if required,”** explains the CIO of a mid-sized transportation and storage company, based in the West Midlands. The industry is focused on the need for improved standards and for further development of industry ecosystems.

Manufacturing

is also seen as crucial to our digital future. New technology is rapidly transforming many UK factories, with exciting innovations to come. Many respondents (57%) are hoping new technologies, like robotics and 3D printing, will help them get the most from digital. **“Robotics is such a promising area—it increases our speed, quality, and minimizes errors,”** explains the CIO of a mid-sized Manufacturer based in Yorkshire and the Humber. Manufacturers are also positive about the impact on jobs, with over 60% expecting more and better job prospects. About half call for improved training to develop digital skills.

LONDON MAY BE LEADING, BUT OTHER REGIONS ARE CHASING

The largest Digital Opportunity, at £48.5 billion, is to be gained in London. Based on a percentage gain on existing revenues, the regions expected to gain the most are London and Scotland, at 3.6%, closely followed by Wales, the North West, and South East, at 3.1%. Across the country, examples of regional digital adaption are emerging. Companies in Scotland, for example, want to carve out a niche for global growth industries by providing key components for mobile phones and electric cars, and by creating video games for the Grand Theft Auto franchise.

£48.5BN

DIGITAL OPPORTUNITY TO BE GAINED IN LONDON.

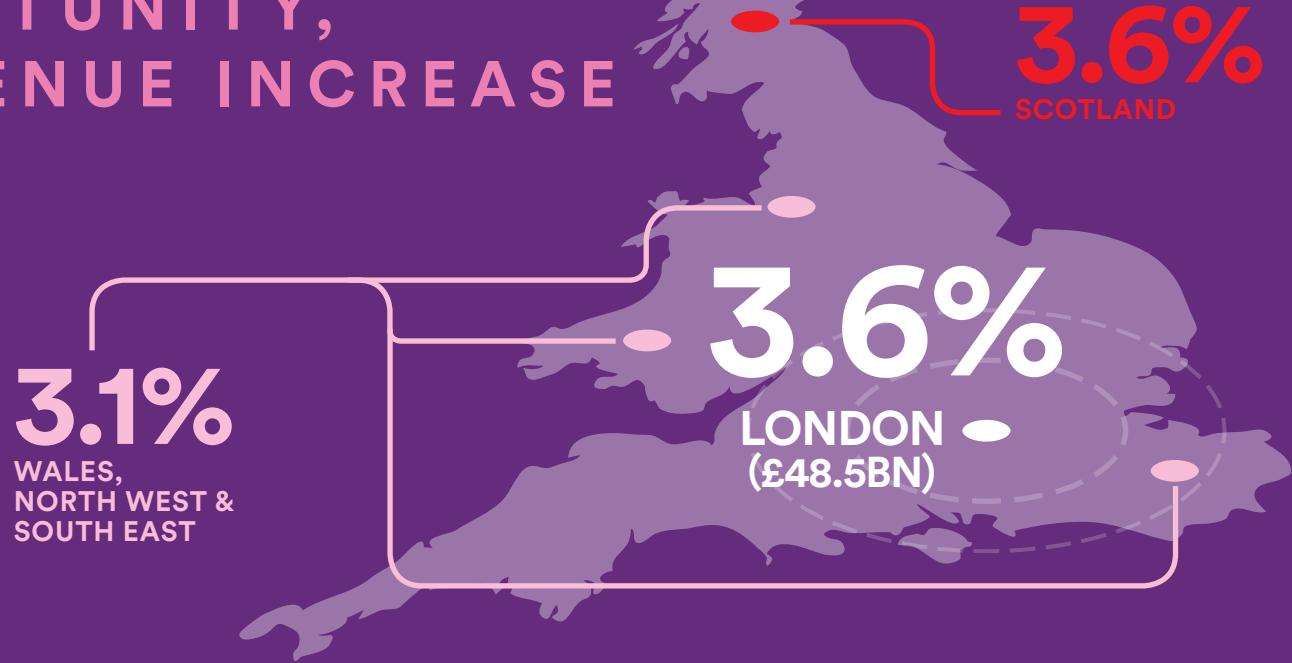
In the North East, traditional manufacturers are investing in the latest technologies (e.g. Nissan Motor UK); service companies are adjusting their business models (e.g., Sage's extension of its Software as a Service offering); and a number of new companies are emerging, like Ubisoft Reflections and Visualsoft. This wide dispersion of digital firms reinforces other research, such as Tech Nation's recent report on the UK's digital economy³, which documents the growth of clusters of digital firms in towns and cities across the country, and the advance of digital start-ups in Bournemouth and Liverpool, where the rate of growth exceeds that of London.

**"INNOVATIVE DIGITAL
CLUSTERS ARE IMPORTANT
NOT JUST FOR THE TECH
SECTOR BUT FOR REGIONAL
ECONOMIES AS A WHOLE."**

These innovative clusters are important not just for the tech sector but for the regional economies as a whole. "Several years ago we saw our role as supporting the growth of a few tech firms," notes David Dunn, CEO of Sunderland Software City (**see Case Study 1**), a publicly funded incubator set up to support software companies in the North East. "Now we support the effective use of technology across the region. We are working with local leading companies to build the digital expertise they need to win in global markets" ■

³ See "Tech Britain 2015" at <http://www.techcityuk.com/wp-content/uploads/2015/02/Tech%20Nation%202015.pdf>

REGIONAL DIGITAL OPPORTUNITY, % REVENUE INCREASE



SUNDERLAND SOFTWARE CITY (SSC):

FROM GREEN SHOOTS TO TREE TRUNKS IN THE NORTH EAST

DAVID DUNN, CEO OF SUNDERLAND SOFTWARE CITY HAD HIS DOUBTS ABOUT HOW A PUBLICLY FUNDED ORGANISATION COULD DRIVE GROWTH OF PRIVATE SECTOR FIRMS IN THE NORTH EAST.



SSC

is a publicly funded body, receiving funds from local, national, and EU bodies, with private sector guidance on its management board. Seven years after opening, SSC supports 1,600 software firms in the region. "We have gone on a migration from the commercial creative sector to the tech and digital sectors, and now to the B2B enterprise software sector," says Mr. Dunn. SSC now provides its services to all industry verticals in the North East, and encourages more effective use of data across the UK. "When I started here I saw green shoots of new businesses," he says, "now I am seeing mighty tree trunks."

And its role continues to grow. In November 2014, The North East was awarded one of three regional Digital Catapult Centres – an initiative funded by the Government's Digital Catapult program (part of the UK's Department for Business, Innovation & Skills), and operated by SSC. It's aimed at helping companies across the country understand the value hidden in data and how that value can be increased by sharing it with others. As a result, Mr. Dunn spends more time talking with large established companies in the region, like Nissan, HP, and Barclays, as well as many public sector organisations. Established companies get access to local specialist expertise to transform their operations, and local software companies get great business opportunities in niche verticals.

Mr. Dunn sees this wider remit as a model that can be extended to other regions: to concentrate on core areas of expertise and use digital know-how to bring up the whole

regional economy. The North East is developing expertise in particular areas, like auto manufacturing and data sharing, where it stands to win business nationally and internationally, as well as attract inward investment.

Key to success is developing the local skills base. SSC encourages people into tech careers by talking to schools, colleges, and universities. People are joining code clubs (up from 6 to 60 in the last 9 months) and a number of other informal clubs that meet in pubs and cafes to discuss technology. Companies in the region are taking advantage of these skills, and Mr. Dunn believes that a growing reputation for strong technical skills will attract more firms to locate and invest in the North East. There needs to be more shining examples, industry "rock stars", to encourage others, and corporate HR departments need to look outside their normal hunting grounds (established universities) when they search for qualified candidates ■

ENCOURAGING THE GROWTH OF REGIONAL CLUSTERS

Successful clusters provide lessons for others trying to energise their own region, and mutually supportive ecosystems can be developed from suppliers and partners in both the public and private sectors. For the UK economy to thrive it needs to encourage the growth of these regional clusters. According to David Dunn, the North East's experience shows that regions will benefit most by building a core expertise, which they can then offer to the rest of the UK as well as export, rather than competing against each other for a limited pool of inward investment.

Adizah Tejani, Head of Ecosystem Development at Level39, a private sector incubator, agrees that national collaboration is the way forward (**see Case Study 2**). "London is a centre of global business," she says, "but it needs to work effectively with companies across the UK, to exchange ideas and be open for business." This collaborative network will not happen by chance. "The key is to encourage the right connections" ■



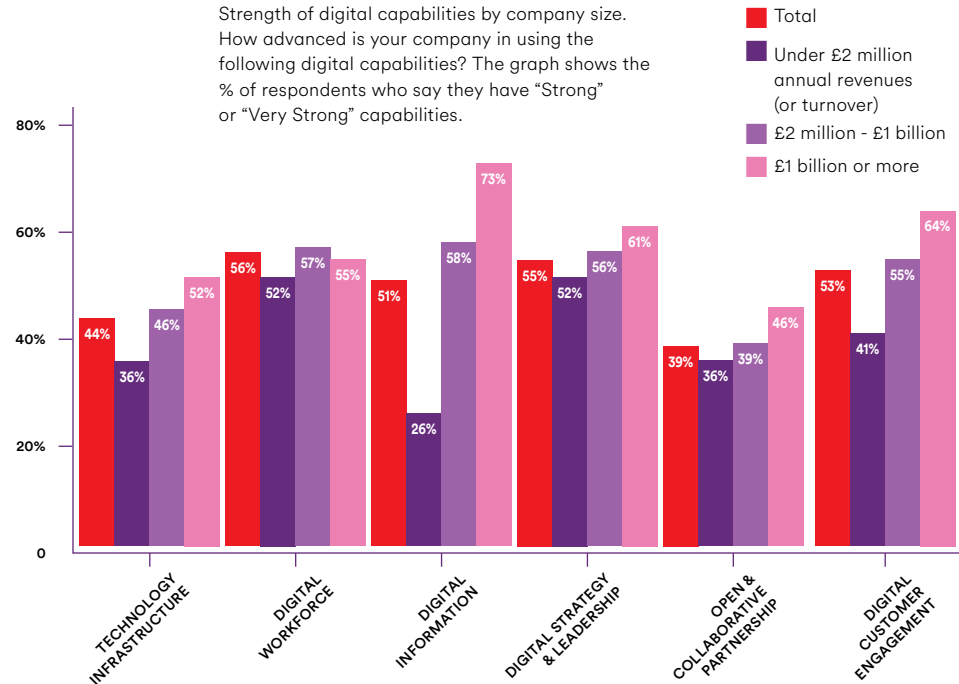
"LONDON NEEDS TO WORK EFFECTIVELY WITH COMPANIES ACROSS THE UK, TO EXCHANGE IDEAS AND BE OPEN FOR BUSINESS."
ADIZAH TEJANI,
HEAD OF ECOSYSTEM
DEVELOPMENT, LEVEL39

THE ADVANTAGES OF SCALE

Having broadened our definition of digital beyond just tech firms to include all companies that gain a commercial benefit from digital technology, we found that large companies are leading the field. And smaller firms are struggling to invest sufficiently in order to upgrade the six core digital capabilities we described earlier. Large firms have access to the resources they need to invest in the latest digital capabilities. They often have teams dedicated to looking at future trends, and are able to offer attractive pay, working conditions, and prestige in order to attract top talent. ▶▶

FIG. 9

Strength of digital capabilities by company size. How advanced is your company in using the following digital capabilities? The graph shows the % of respondents who say they have “Strong” or “Very Strong” capabilities.



THE ADVANTAGES OF SCALE [CONTINUED]



Our survey shows that large firms (those with annual turnover of more than £1 billion) tend to view their digital opportunities very positively, and consider themselves to be significantly stronger than others across a number of capabilities, especially technology infrastructure and digital information—areas that require significant investment.

Small and medium-sized enterprises (SMEs), firms with fewer than 250 employees, have most to gain from investing in digital technologies.

We estimate that across the economy, the Digital Opportunity for SMEs is £56 billion. Though they currently have weaker digital capabilities than larger companies, they are in a strong position to catch up. And they seem to be serious about building up their digital capabilities. For example, they report that they are planning to employ more staff with digital skills, and increasing employment over the next two years by 6% – three times the rate of larger companies.

“The next wave, the build-out of the Internet of Things, won’t happen in the same way as the mobile revolution—it will be more down to SMEs and start-ups rather than corporates,” observes Mr. Clarke of Ocado. “It’s important that we develop the ecosystems that will help them flourish.”

Firms that are in the middle, neither large nor small, may face the greatest difficulties. They are at a scale where they need to invest in digital, but they may lack the time, resources, supportive management, and in-house expertise to do so. The support networks available to SMEs based at hubs, such as Level39 (see Case Study 2) and the Government’s Catapult Centres (see page 28), are also less accessible to larger firms ■

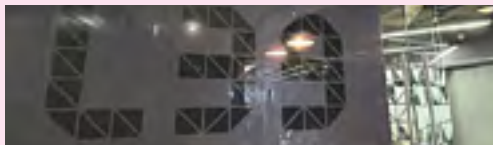
“LARGE FIRMS ARE OFTEN BETTER RESOURCED TO INVEST IN DIGITAL INITIATIVES. SMES CAN BENEFIT FROM THE LATEST TECHNOLOGIES. MID-SIZED FIRMS MAY FIND IT HARDEST TO ADAPT.”

£56BN

DIGITAL OPPORTUNITY FOR
SMALL & MEDIUM-SIZED ENTERPRISES.
(SMEs)

LEVEL39:

ENCOURAGING BUSINESS GROWTH THROUGH ‘ORGANISED SERENDIPITY’



Level39, Europe's largest incubator of technology firms in finance, retail, cybersecurity and future cities sectors, helps new digital companies get off the ground. It provides the right innovative and collaborative environment and provides access to specialist expertise where needed. Adizah Tejani, Level39's Head of Ecosystem Development, likes to bring resident companies together in an informal setting to share experiences with their peers. It creates what Ms. Tejani calls "organised serendipity"—helping atoms collide in order to set off positive reactions. She plays a similar role as a guide for start-ups and early-stage

companies looking to make the most of the opportunities presented by digital technologies.

The company has seen increased start-up activity from its base at Canary Wharf in London and across the country. The growth has been particularly notable as all industries have recently begun to realise they are being disrupted by technology and need to do something about it. "It's certainly no longer just a tech phenomenon," notes Ms. Tejani. "We are seeing more and more new companies applying innovative technologies, like data analytics, to tackle a wide range of industry challenges."

But there is no single way to succeed as a digital start-up. Every business faces a distinct context and special challenges. And finding the right networks and experts to connect with is one of the hardest things to get right. Level39 can help people make the right connections,

build bridges, communicate, and connect to sources of finance, talent from local universities and established business advisers.

As companies grow, they face different challenges and need different skills—like business management, where needs can change dramatically between the start-up phase and an established business. This problem of scaling up is one of the biggest challenges facing new, fast-growing digital companies. Ms. Tejani works closely with a number of organisations that encourage clusters such as Innovate Finance and Tech City UK.

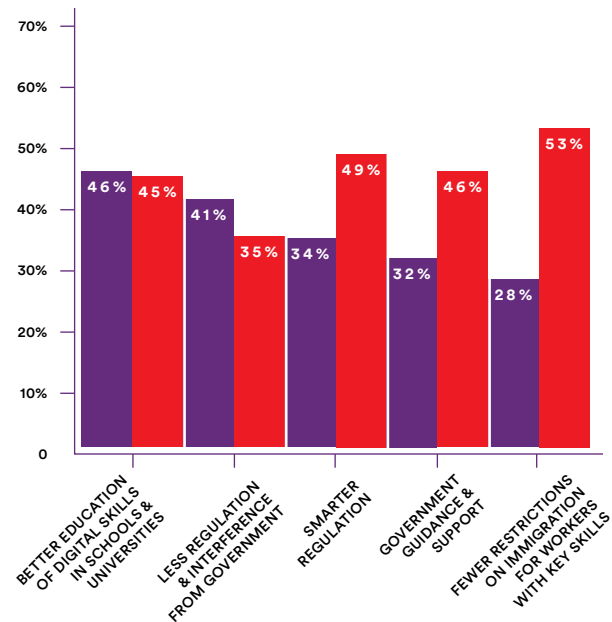
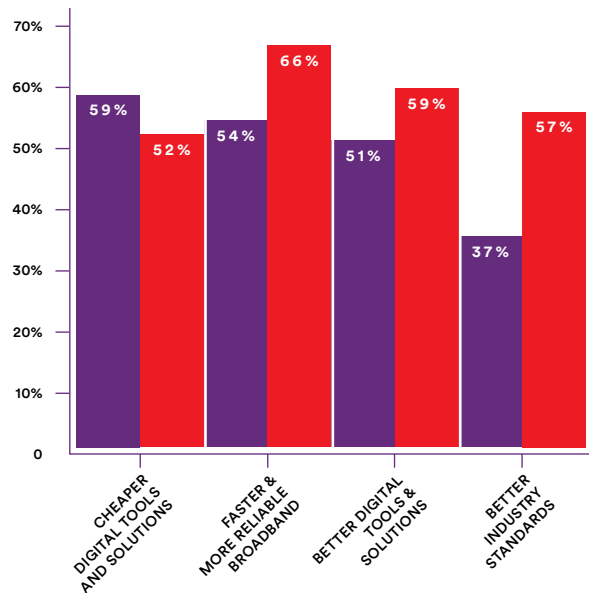
While there are great examples of thriving clusters across the country, a cluster can't be created by force. Many different things are necessary—access to skills, finance, infrastructure and a knowledge base. It ultimately comes down to people and a positive, entrepreneurial culture ■

PREFERRED SOLUTIONS TO HELP BUILD DIGITAL CAPABILITY AND LIKELIHOOD IN NEXT THREE YEARS

FIG. 10

What solutions would help you and other companies overcome the obstacles you face?

- Solution that would help overcome obstacles
- Likelihood of being in place in three years



THE DIGITAL OPPORTUNITY

THE SOLUTIONS THAT COMPANIES MOST WANT TO HELP THEM ADVANCE ARE CHEAPER TECHNOLOGY, AND FASTER, MORE RELIABLE BROADBAND.

Our respondents expect to have increased demand for staff with digital skills. Almost half of respondents (46%) would like to see a better standard of education in these areas in schools and universities. Most respondents do not want to see unnecessary Government interference. Solutions involving active Government support (industry standards, smarter regulation, and Government guidance and support) tend to score lowest among those offered, though these scores vary significantly by industry.

As technologies mature and global markets become more open to trade in digital services, a £92 billion opportunity exists for companies to establish themselves both at home and abroad. "People in the UK can tend to be a bit parochial," says SSC's Mr. Dunn. "Sometimes they need a little push to think more internationally to make the most of their great products and services" ■

5 WAYS TO SUPPORT FIRMS:

1: PROMOTE the availability and roll-out of better technical solutions—for example, accelerate the widespread availability of ultrafast broadband and support the development of key technical standards.

2: ADAPT education policies to meet the changing demand for skills—technical capabilities as well as broader business proficiencies—to wrestle the most from digital technologies.

3: SUPPORT the infrastructure and ecosystems that can best help businesses innovate and thrive: progressive universities, colleges and other public and private sector institutions keen to collaborate with industry.

4: ENCOURAGE regions to develop areas of expertise, so that they can support the development of their local economy as well as become leaders in global markets. They'll benefit most through collaborating with other parts of the UK, rather than competing for the same limited pool of funds.

5: PROVIDE better guidance (via the Government-funded Catapult Centres, for example) to the SMEs that are key to seizing the Digital Opportunity.



3

UK'S DIGITAL LEADERS SHOW THE WAY

“IF YOU HAVE GOOD PEOPLE WHO DO GOOD THINGS, AND PEOPLE ARE SAYING GOOD THINGS ABOUT YOU—YOU’RE GOING TO ATTRACT MORE GOOD PEOPLE, YOU’RE GOING TO RETAIN PEOPLE.”

TOM CHATFIELD, COMMENTATOR & AUTHOR

UK'S DIGITAL LEADERS SHOW THE WAY

“THERE ARE MANY DIFFERENT MODELS OF DIGITAL SUCCESS AND NEW TYPES OF COMPANY EMERGING. UK COMPANIES ARE LEADING GLOBALLY IN SOME AREAS.”

The widespread introduction of inexpensive computing power, the rapid growth of the Internet, cloud computing, social media, mobile computing, and now the Internet of Things, have changed the rules for doing business in all industries.

Such innovations offer huge opportunities for companies to develop new ways of working, and firms that are adapting quickly and investing wisely are leading the way with digital. Technological innovation is rushing ahead: new competitors are emerging and industry structures are rapidly evolving. Companies have to be ready to respond.

Firms are adapting in their own ways to get the most out of the Digital Opportunity. Some businesses are moving from physical products to digital services. Others are applying sophisticated digital technologies and techniques to develop new solutions and business models; engaging with their customers in new ways, or transforming the efficiency of their operations. In several of these areas, some firms are global leaders: BP, for instance, uses the world's largest commercial computer centre (based in the US) to process seismic data to image deep rock formations and understand what they might contain⁴. Many of the world's leading tech companies are based here in the UK, using sophisticated data analytics tools⁵.

New firms are being born digital, in the sense that they produce and deliver their products and services entirely in digital form. A larger group applies digital technologies to enhance their products, services, and operations. They do this by introducing new digital services to supplement their existing products. For these companies, the digital transformation will prove more challenging. They will need to adapt their existing ways of working, even as they face the challenges of competing with new entrants.

The online grocer Ocado, for example, has a very different business model from its competitors (see **Case Study 3**). Since it does not have stores, the way it uses its technology is particularly important to differentiate itself and gain a competitive edge. “Technology is infused into all we do, it's key to how we operate and where we see our competitive advantage—from end to end,” says Chief Technology Officer Paul Clarke ■

⁴ Number crunching with Big Data, BP website at <http://www.bp.com/en/global/corporate/press/bp-magazine/innovations/number-crunching-with-big-data.htm>

⁵ See FinTech Futures The UK as a World Leader in Financial Technologies A report by the UK Government Chief Scientific Adviser, March 2015 at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/413095/gs-15-3-fintech-futures.pdf

OCADO:

DIGITAL IS PART OF THE DNA

THE WORLD'S LARGEST PURE PLAY ONLINE GROCER SHOWS HOW DIGITAL ENTERPRISES CAN OUTMANOEUVRE AND OUTPERFORM RIVALS ENCUMBERED BY LEGACY INFRASTRUCTURE.



“W

e were born digital,” explains Paul Clarke, Ocado’s Chief Technology Officer. “It’s part of our DNA.” Founded 15 years ago, Ocado is now a growing and profitable retailer with close to £1 billion annual revenues and 500,000 active customers. At a time when intense competition in the grocery sector is putting pressure on margins, Ocado is one of a very few firms on a growth path, increasing sales by over 20% in 2014 and profit by over 50%. And unlike some of their competitors, Ocado is not relying on a price discounting strategy but looking to innovate via technology in order to grow the business.

Ocado does not consider itself as just a retailer but both a retailer and a tech company. The retail and tech functions support one another: constant feedback from retail operations helps improve the company’s technical solutions.

Software, developed in-house, is a key differentiator. It provides a front end for the customer, with clever features like a suggested shopping basket based on previous orders. Customer orders are checked against stock levels that are constantly updated, minimising the need to offer substitutes. They can also book a delivery for a one-hour time slot, making changes until just a few hours before delivery. Increasingly, these are features that online retail customers take for granted. What the customer doesn’t see are the mathematical process models, forecasting engines, visualisations, remote telemetry, Big Data, and the simulation that makes it all possible. Ocado also makes extensive use of the Internet of Things

to improve its logistics and supply chains. For example, food can be ordered from suppliers at the latest moment and tracked throughout the supply chain, then stored at the optimal temperature in warehouses and delivery vans, thereby reducing waste and extending shelf life. Information on storage times is then shared on customers’ receipts. Technology also optimises delivery routes from centralised warehouses, which are becoming increasingly sophisticated, automated, and highly connected.

This technology-infused business model provides a number of benefits over the competition’s bricks-and-mortar operations. For one, Ocado has a lower and more flexible cost base. Mr. Clarke also sees technology as a key asset that can help the company grow in new areas. With an established online link to customers, Ocado is looking to develop other retail segments like the online pet supplies it launched in 2014. Last year the company helped rival grocer Morrisons launch an online shopping operation. Expanding on this venture, Ocado is now developing new hardware and software platforms (the Ocado Smart Platform) to put large bricks-and-mortar grocery retailers around the world online using its disruptive business model ■

DEFINING DIGITAL LEADERS

DIGITAL LEADERS PRIORITISE ALL DIGITAL CAPABILITIES—MORE THAN 95% CONSIDER ALL SIX IMPORTANT OR VERY IMPORTANT, WHILE JUST 50%–60% OF OTHER FIRMS RANK THEM SO HIGHLY.

We've been able to identify a leading group of firms that deploy digital capabilities to give themselves commercial advantage over their peers. They are seeing improved financial performance as a result. We looked at what they were doing differently in order to identify the specific actions companies can take to help the economy better achieve its full digital potential.

95%

**OF DIGITAL LEADERS CONSIDER
THE SIX DIGITAL CAPABILITIES AS
IMPORTANT OR VERY IMPORTANT.**

Becoming a Digital Leader is about far more than technology. It's about understanding how new technologies can be applied for maximum commercial advantage and being able to make the changes needed to a company so that it can operate in new ways. From our survey responses we identified an elite group—those that were above average on all six of our digital capabilities and excelled in at least two of them.

They are also impatient and want to push on, confident that constraints can be overcome. The composition of this group of leaders demonstrates that digital innovations affect all industries, regions, and firms of all sizes (see Fig. 11 & 12) ■

DIGITAL LEADERS ARE:

More profitable

(with an 8% profit margin, vs. 6% for the rest)

Faster growing

(revenue growth of 4.8%, vs. 3.9%)

More positive

about the impact of digital on their industry. (81% expect it will lead to more and better jobs, vs. 51%)

More confident

about their ability to compete. (76% say they are quick to adapt to change, vs. 53%)

DIGITAL LEADERS – BY INDUSTRY

Digital leaders can be found in all sectors, though the technology sector has the greatest share (a quarter), compared with almost a fifth of financial services, manufacturing, construction, transportation and storage, or professional services companies. Leaders are also well represented across regions (we suspect that the scores in the North East and Northern Ireland are a result of their low sample count), with the largest share located in the East Midlands ■

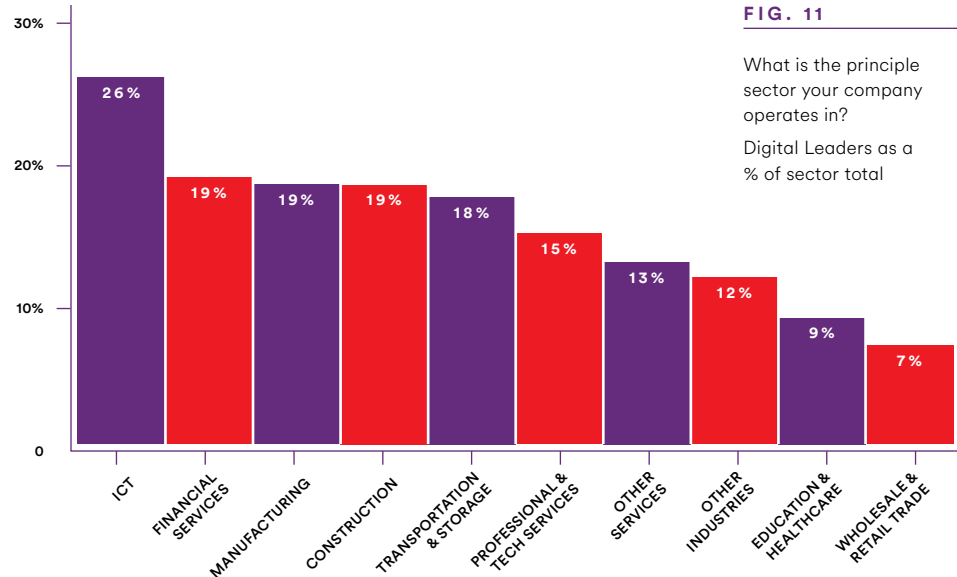


FIG. 11

What is the principle sector your company operates in?

Digital Leaders as a % of sector total

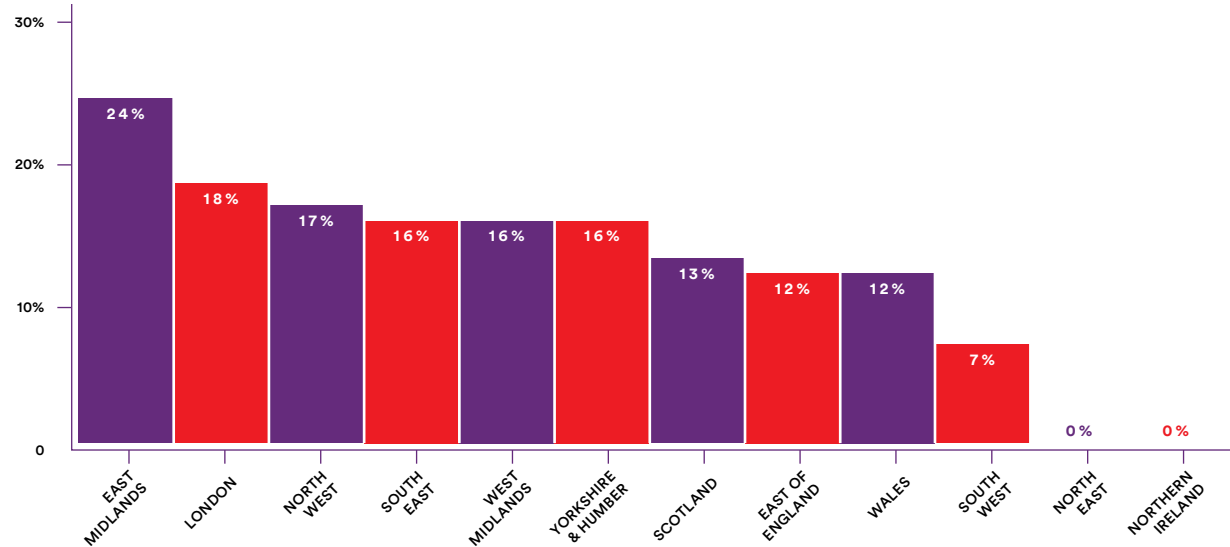
DIGITAL LEADERS – BY REGION

FIG. 12

In which region of the UK
are your headquarters
located?

Digital Leaders as a
% of region total

Note: Due to small sample
size, results for Northern
Ireland and North East are
directional only.



TOM CHATFIELD (COMMENTATOR AND AUTHOR):

DEVELOPING AN EDGE IN THE DIGITAL ECONOMY

"IF SOMETHING GOES WRONG, OR YOU ARE JUST NOT KEEPING UP WITH THE REST, BAD PERFORMANCE ALSO GETS AMPLIFIED. HOW YOU GET OUT OF THAT IS A TOUGH ONE."

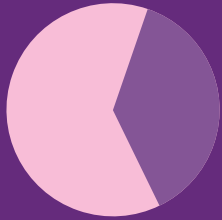
Tom Chatfield is a commentator on digital affairs and culture, and the author of six books on the subject, including *How to Thrive in the Digital Age*. He is particularly interested in how digital technology can be used successfully. "Digital technology creates network effects that can hugely amplify performance," he says. Online networks generate vast amounts of information for consumers and provide greater transparency about products, services, and company performance. This gives consumers increased power, as they use reviews, rankings, and social media to move with like-minded people to something that best serves their purpose. In this way, consumers gravitate to hubs—particular companies or organisations that are excellent at meeting their needs.

Leading digital companies can also have a magnetic pull, because of reputational dynamics. Put simply, "if you have good people who do good things, and people are saying good things about you—you're going to attract more good people, you're going to retain people," he says. "Customers, employees, and business partners will be drawn toward you." While this has always been the case to some extent, digital technology amplifies the effect considerably because performance is so transparent and widely shared. But "it's a double-edged sword," explains Dr. Chatfield: "If something goes wrong, or you are just not keeping up with the rest, bad performance also gets amplified. How you get out of that is a tough one."

These effects demonstrate how leaders can use digital technologies to consolidate their position. Through constantly explaining the value they are generating and being responsive to their customers, they can draw

more customers toward them and develop the scale and expertise to give them a conclusive advantage over competitors. Dr. Chatfield is very confident about the UK economy's growth prospects. The UK is strong in many information-rich industries, like media, marketing, financial services, security, and risk management—and understanding and getting real value from information, he says, will be critical in the years ahead. It also has strength in "soft powers"—with an excellent reputation in education, the advantage of the English language, great media content, established international networks, and a strong academic and learning culture. "We should make much more of our advantages," concludes Dr. Chatfield, "and we should not just look to start-ups. Strong incumbent institutions like the BBC and leading universities also have an opportunity to exploit their considerable strengths, redefining their role for the information age" ■

DIGITAL IN THE WORKPLACE



60%

USE DIGITAL TO IMPROVE
COLLABORATION ACROSS
THEIR ORGANISATION



65%

USE CLOUD SERVICES



63%

HAVE FAST OR RELIABLE
COMMUNICATIONS



47%

ARE PARTNERING WITH
DIGITAL SPECIALISTS



54%

ARE USING CUSTOMER
FEEDBACK TO
IMPROVE SERVICE

% scores represent respondents who said they had "strong" or "very strong" capabilities in these areas.

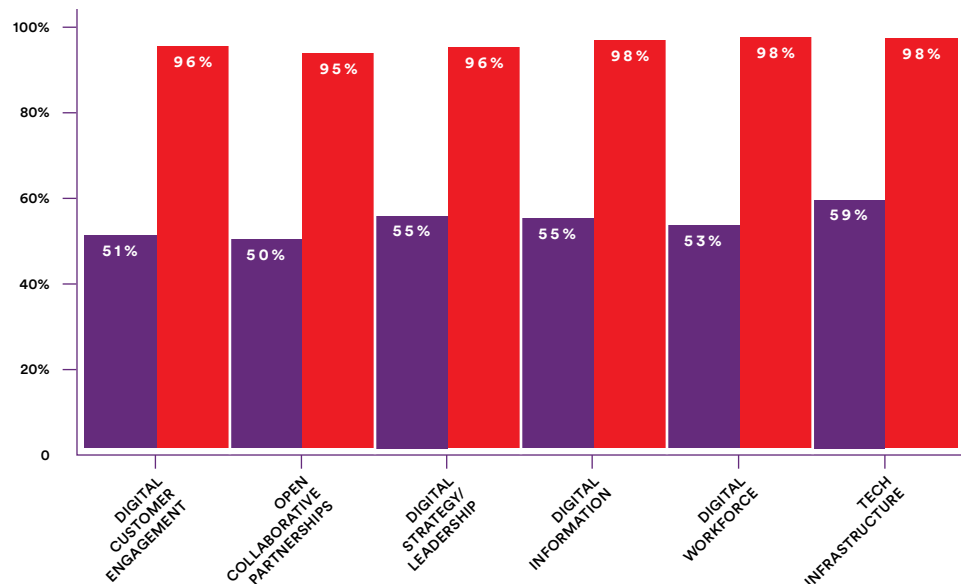
DIGITAL LEADERS' PRIORITISATION OF DIGITAL CAPABILITIES

Digital leaders prioritise their investments in all digital capabilities to a significantly greater extent than other firms (see Fig. 13), with more than 95% of leaders rating each of the six capabilities as important or very important, as opposed to 50%–60% for other firms. These leading firms also recognise all six of the capabilities almost equally; they invest no more than their peers in IT, they just invest it more wisely. And they obtain more commercial benefit from having invested ■

FIG. 13

Prioritisation of digital capabilities today

■ Digital Leaders
■ All Others

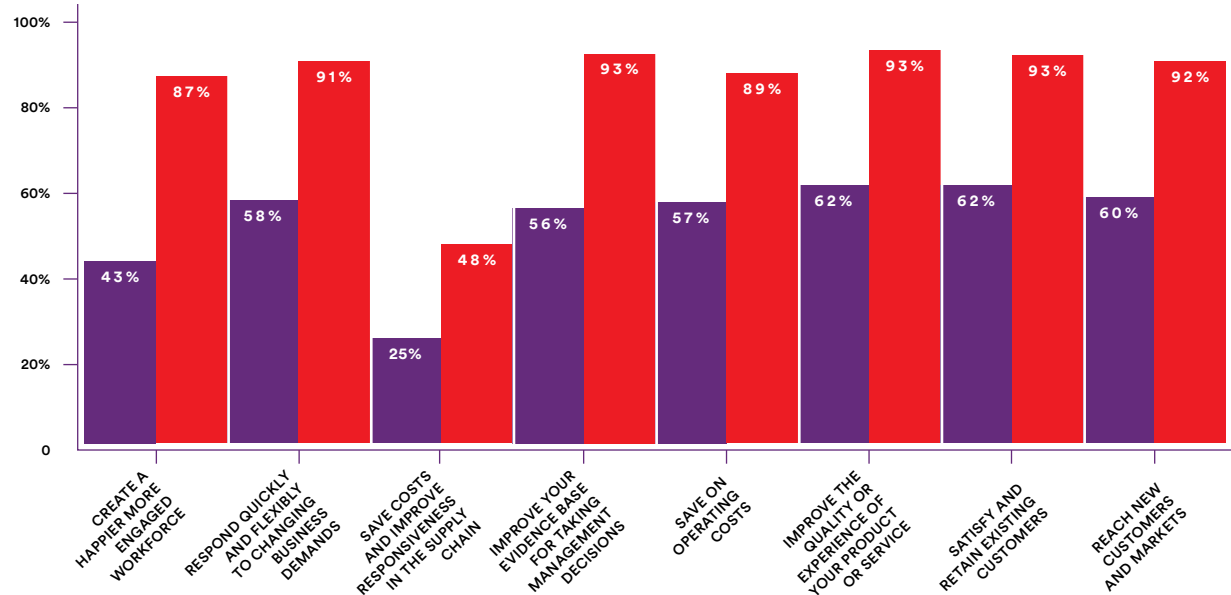


DIGITAL LEADERS' EXPECTED BENEFITS OF DIGITAL CAPABILITIES

FIG. 14

What outcomes do you see from your digital capabilities?

■ Digital Leaders
■ All Others



DIGITAL LEADERS' PERFORMANCE PREMIUM

Leaders invest in digital capabilities because they recognise the wide range of benefits that result: increased access to customers, an improved customer experience, better data for decision-making, increased flexibility to respond to changing demands, a more efficient and responsive supply chain, and more satisfied employees. They also report improved financial performance as a result of their digital investments; a 5.3% improvement in revenues and a 5.5% reduction in costs, both over 30% better than other firms ■

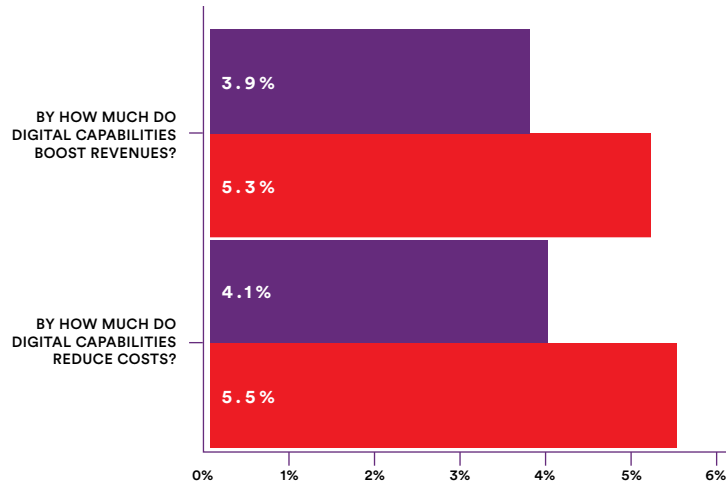


FIG. 15

Impact of digital capabilities on revenues and costs

■ Digital Leaders
■ All Others

HELPING UK FIRMS BECOME DIGITAL LEADERS

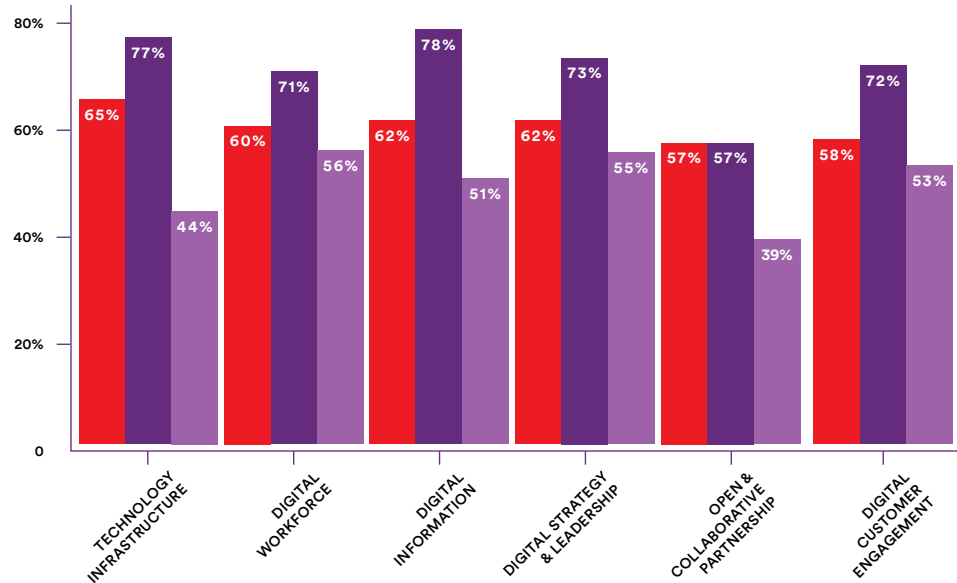
A more granular analysis offers additional insights into the progress firms are making to respond to the digital challenge—and indicates what other companies can do to catch up. Our survey shows that large gaps exist between firms' assessments of their current strengths and their view of the importance of digital capabilities (see Fig. 16). Across our research, the greatest gap between a company's digital priorities and current capabilities is in technology infrastructure (a 21-point disparity), with open and collaborative partnerships second (18 points). Looking ahead three years, digital information becomes the highest priority capability, while technology infrastructure remains the greatest disparity to current strength (33 points) ■

FIG. 16

Strength of digital capability vs. leadership prioritisation now and in three years.

■ Today
■ In three years
■ Strength of each capability

What level of priority does your leadership team give to the following six digital capabilities?



STRENGTHS AND PRIORITIES FOR DEVELOPMENT

In **Chart 1** we provide more detail on firms' strengths and weaknesses against each of the six capabilities. It shows the three or four highest and lowest scores against each capability, and a couple of actions on each that could help firms keen to improve. For technology infrastructure, many companies have built solid foundational capabilities (via the use of broadband, cloud, and collaborative tools for example). Yet more advanced technologies (like predictive analytics and the Internet of Things) are still in early stages.

COMPANIES NEED TO ASSESS THEIR OWN DIGITAL PRIORITIES, PRESENT A STRONG BUSINESS CASE, AND BE RESPONSIVE TO CONTINUOUS CHANGE.

Firms feel confident they can provide the necessary equipment and environment for their digital workforce, but report difficulties in offering the necessary pay and career development opportunities for key staff. And when it comes to both developing digital strategy leadership and enhancing digital customer engagement, the capability strength scores are bunched around the middle. This suggests that progress has been made, but there remains good scope for improvement. For open and collaborative partnerships, the scores are all noticeably lower, with no scores over 50%, showing that this is the least developed of the six digital capabilities

When we review the survey results by individual industry sectors, we find that each specific industry offers a distinctly different assessment of its digital capabilities. These include current strengths and weaknesses, current and future prioritisation, and the commercial benefits available

through digital investments. Financial services companies emphasise the importance of investing in their technological infrastructure and highlight the importance of improving their digital customer engagement. Transportation and storage firms highlight these two capabilities even more strongly, yet also emphasise the need for digital strategy and leadership.

By contrast, manufacturing firms rate digital workforce capabilities and open and collaborative partnerships more highly than companies in other sectors. Among all firms, financial constraints are cited as the biggest obstacles to making progress. Greater access to funds, highlighted by half of respondents, is only part of the solution. The bigger problem is being unable to present a strong enough business case to gain investment, as many believe the Return on Investment (ROI) of digital investments is difficult to quantify. ►►

STRENGTHS AND PRIORITIES FOR DEVELOPMENT [CONTINUED]



Several respondents explained how they have improved their performance measurements to help justify digital investments. In the longer term, respondents seem confident that cheaper and better digital products will make it easier to put forward the case to invest. Implementing digital changes can be complex, particularly if they involve structural changes like developing new roles or recomposing the corporate culture.

As one respondent concluded, "It's hard to get it right first time—and just when you have it working, everything changes again. The skills needed for automating processes aren't the same as those needed for putting businesses on the web, which likewise is different from those needed to make mobile business effective. It takes real investment of will to wear all these different hats simultaneously."

Above all, companies need to make sure they don't fall behind. This is a fear expressed by many of our survey respondents. Based on the wealth of data provided by Digital Leaders, and all survey respondents, we recommend some first steps management teams can employ to stay ahead of the curve.

STAYING AHEAD OF THE CURVE:

- Understand how your industry is being affected by digital technologies, not only the moves of known competitors but also those of agile new entrants.
- Consider the Digital Opportunity. Can you reach out to new markets, change your business model, improve your product and the customer experience, get greater value from information, and implement new ways of working?
- Estimate the investment needed in digital capabilities, recognising that you not only need to deploy the best technology, but also develop the broader business capabilities to get the most out of the investment.
- Develop a convincing business case, including appropriate metrics, based on an appreciation of the benefits that digital capabilities can generate. A well-developed business plan will help to both secure funds and ensure management is focused on getting the most out of digital.
- Move towards more flexible ways of working and building responsive organisational structures, with a commitment to develop a culture receptive to learning and change.
- Assess and progress. You need to keep aware of new opportunities and adapt quickly when needed. Even digital leaders will need to work hard to stay ahead of potential competitors.

This survey has highlighted the encouraging progress and positive attitudes companies bring to the digital disruption that is all around them. The revolution in digital is still at an early stage, and we can expect much more technological innovation and industry disruption ahead. With digital technology opening up markets around the world, as well as making UK markets more accessible to overseas competitors, it is critical that companies build their digital strength and adaptability so they can establish themselves as digital leaders in their industries, and secure their share of the Digital Opportunity ■

STRENGTHS & PRIORITIES FOR DEVELOPMENT

% SCORES REPRESENT RESPONDENTS WHO SAID THEY HAD “STRONG” OR “VERY STRONG” CAPABILITIES IN THESE AREAS.

CAPABILITY	CURRENT STRENGTHS	NEEDS IMPROVEMENT	ACTIONS TO CONSIDER
TECHNOLOGY INFRASTRUCTURE	- Cloud services (65%) - Fast, reliable communications (63%) - Collaborative tools (62%)	- Consistent, reliable, integrated enterprise software (43%) - Big Data, predictive analytics (24%) - Smart sensors and connected devices (20%) 74% still using Windows XP, same number deploying tablets	- Invest in flexible, open technical solutions that can scale up and down with business activity and avoid long term lock-in. - Regularly assess the relevance of new technologies to your business.
DIGITAL WORKFORCE	- Encouraging flexibility, openness and innovation (76%) - Providing basic digital skills and awareness (74%) - Equipping staff with the latest technology (54%) - Providing an attractive work environment (52%)	- Recruiting the best digital staff (43%) - Providing attractive pay and conditions for digital staff (43%) - Providing opportunities for career progression for digital staff (44%)	- Broaden your search for talent—consider entrepreneurs and tech communities. - Develop broader career paths into commercial management for those with tech skills.





CAPABILITY	CURRENT STRENGTHS	NEEDS IMPROVEMENT	ACTIONS TO CONSIDER
DIGITAL INFORMATION	- Protecting sensitive information (65%) - Presenting timely and user-friendly management information (64%) - Collecting relevant, reliable data (56%)	- Defining a strategy, structure and roles for managing data (45%) - Storing, integrating and processing large data sets (43%) - Deriving insights from data (44%) - Recruiting staff with specialist data skills (40%)	- Assess available sources of information, from inside and outside the company – how much is actively used? - Prepare an information strategy, setting out how data will be used to generate value and how information quality will be maintained.
DIGITAL STRATEGY AND LEADERSHIP	- Using digital to improve collaboration across the organisation (60%) - Making work more flexible (59%) - Taking faster business decisions (58%) - Implementing business change projects (56%)	- Developing and refreshing digital strategy (52%) - A flatter, more flexible organisation structure (51%) - Gaining market intelligence on digital opportunities and threats (53%)	- Increase market intelligence and strategy refreshes to adapt to pace of industry change. - Break down organisational silos and increase cross functional working.
OPEN AND COLLABORATIVE PARTNERSHIPS	- Using online platforms and digital marketplaces (50%) - Partnering with digital specialists (47%) - Sharing information with suppliers (44%)	- Sharing customer and product information (34%) - Connecting inter-company systems (34%) - Co-creating and innovating products and services (34%) - Sourcing ideas from online communities (26%)	- Review existing business processes and consider how technology could broaden partnerships and improve effectiveness. - Encourage a culture of openness and of challenging organisational norms.
DIGITAL CUSTOMER ENGAGEMENT	- Using social media to understand and influence customers (62%) - Using customers as advocates & promoters (55%) - Using customer feedback to improve service (54%) - Delivering more customised products (51%)	- Increasing customer loyalty (50%) - High-quality websites and apps (49%) - Incorporating customer feedback in R&D (48%)	- Consider additional ways of collecting customer-related information (latest techniques). - Ensure customer data is integrated with other performance management systems and can influence processes across the firm (product development to sales).



4

RESEARCH METHODOLOGY

“WE AIMED FOR A
REPRESENTATIVE SAMPLE
ACROSS THE UK PRIVATE
SECTOR, REPRESENTING ALL
REGIONS AND INDUSTRIES.”

RESEARCH APPROACH

1,049 UK COMPANIES RESPONDED TO OUR SURVEY CONCERNING THEIR CURRENT DIGITAL CAPABILITIES AND PLANS FOR THE FUTURE. ALL INTERVIEWS WERE CARRIED OUT DURING APRIL AND MAY 2015.

We aimed for a representative sample across the UK private sector, representing all regions and industries (using Standard Industrial Classifications)—see below for a summary description. Where we had small industry sample sizes (such as in Agriculture & Forestry and Utilities) we aggregated the results into Other Industries. Arts and recreation was also added to Other Services. Northern Ireland and the North East both had fewer than 30 respondents, so whenever we present regional results, we emphasise the caution that should accompany these results.

Companies were asked to estimate the difference digital capabilities make to their financial performance, both now and in the event that they had optimal digital capabilities. We also asked companies how many staff with digital skills they expected to employ over the next two years and the percentage of jobs in their company they expected to become obsolete. We were able to aggregate their responses using regional and industry totals and apply modelling assumptions to estimate the impact across the private sector of the economy. We asked a series of questions about digital capabilities, current strength, leadership priorities now and in three years, contribution to improved commercial outcomes, and improved financial performance. By analysing all this data across industries, regions, and other demographic segments, we have compiled a detailed census of UK companies' digital strengths and areas for improvement ■

**SURVEY ANALYSIS
WAS CARRIED OUT BY
OXFORD ECONOMICS.**

SUMMARY OF STANDARD INDUSTRIAL CLASSIFICATIONS*

INDUSTRY SECTOR	DEFINITION
ICT	Publishing (e.g. Books & Software), Production, Recording & Broadcasting (e.g. TV, Radio), Telecommunications, Computer Programming & Consultancy, Information Services
FINANCIAL SERVICES	Banking, Insurance, Pension Funding, Trust Funds
TRANSPORTATION & STORAGE	Land, Sea & Air transport (Passenger & Freight). Warehousing & Support Services, Postal & Courier Services
PROFESSIONAL & TECH SERVICES	Legal & Accountancy Services, Management Consultancy, Design Agencies, Marketing & Advertising Agencies, Scientific & Technical Research
WHOLESALE & RETAIL	Wholesale/Retail of Motor Cars/Motor Cycles, Other Wholesale Trade, Retail Trade via Stores, Stalls & Markets, Other Retail Trade (e.g. Internet)
CONSTRUCTION	Building, Civil Engineering, Other Construction Services (e.g. Plumbing, Joinery, Roofing)
EDUCATION & HEALTHCARE	Education, Human Health & Social Care
MANUFACTURING	Wide range of manufacturers (Textiles, Cars, Food & Drink, Chemicals & Petroleum Products, Print & Media, Computer & Electrical Products)
OTHER SERVICES	Arts, Entertainment and Recreation, Hotels, Restaurants and Bars, Administrative & Support Services, Other Personal Services (e.g. Hairdressers)
OTHER INDUSTRIES	Utilities (Electricity, Gas, Water Services), Agriculture, Forestry & Food, Mining & Quarrying

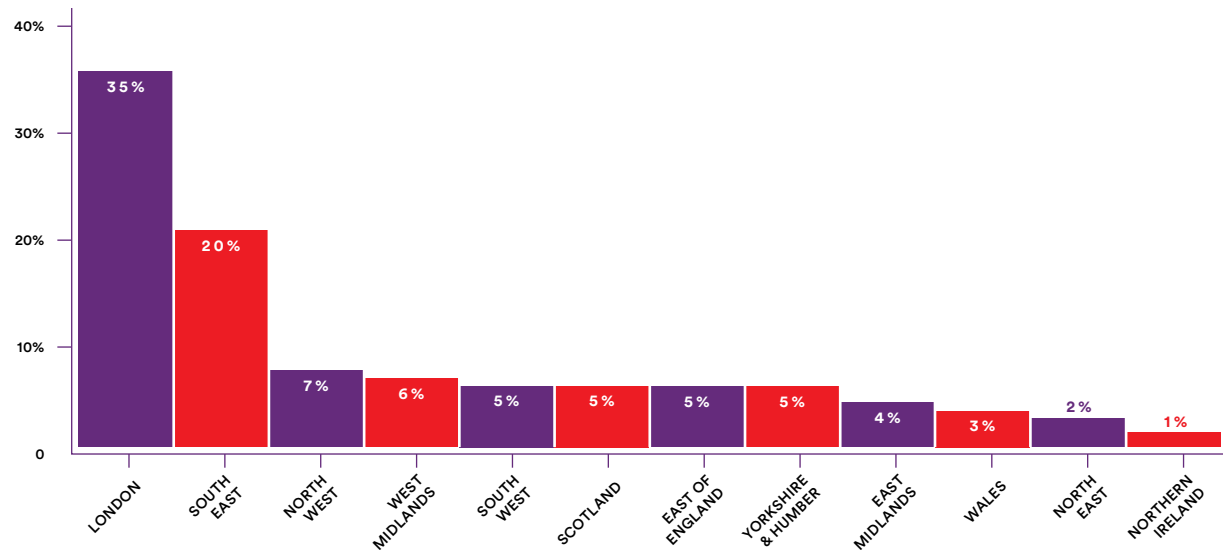
* For the detailed breakdown of the Standard Industrial Classifications hierarchy, please visit the Office of National Statistics website, at <http://www.ons.gov.uk/ons/guide-method/classifications/current-standard-classifications/standard-industrial-classification/index.html>.

SURVEY RESPONDENTS – UK LOCATIONS

FIG. 17

In which region of the UK is your headquarters located?

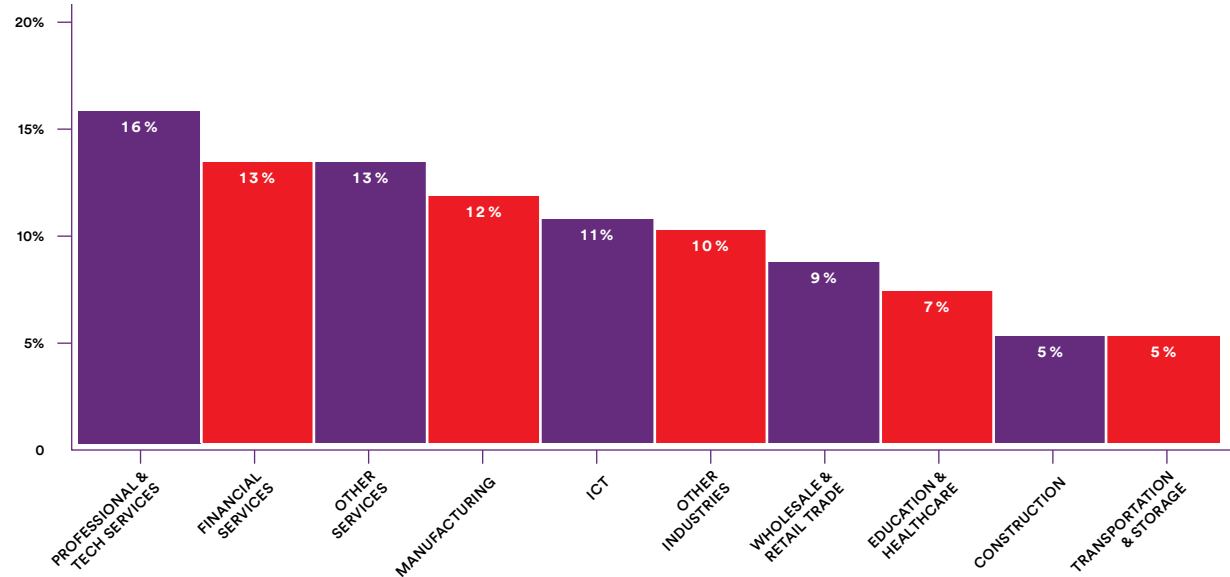
Note: Due to small sample size, results for Northern Ireland and North East are directional only.



SURVEY RESPONDENTS – INDUSTRIES

FIG. 18

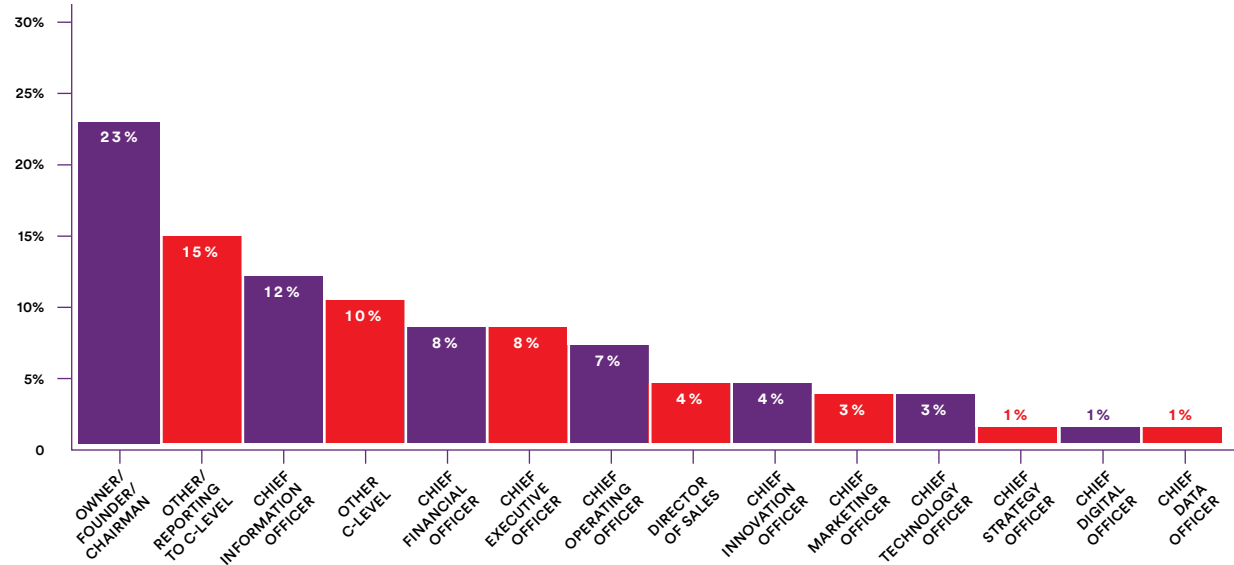
What is the principle sector your company operates in?



SURVEY RESPONDENTS' JOB TITLES

FIG. 19

What is your role?



WHAT BEST DESCRIBES THE NATURE OF YOUR BUSINESS?

42%

BUSINESS TO BUSINESS (B2B)



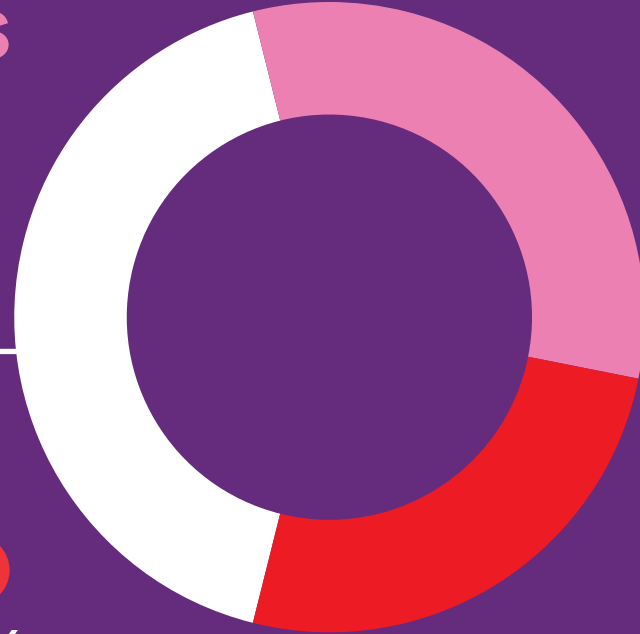
32%

BUSINESS TO CONSUMER (B2C)



26%

B2B & B2C



WHAT DOES YOUR COMPANY PRIMARILY PROVIDE?

57%

PROVIDER OF NON-DIGITAL
PRODUCTS & SERVICES, BUT
USES DIGITAL TECHNOLOGY



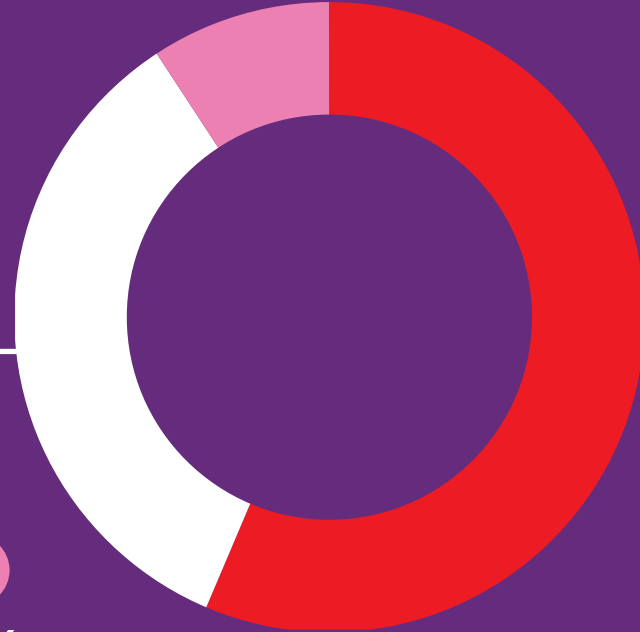
29%

PROVIDER OF DIGITAL CONTENT
AS A PART OF ITS RANGE OF
PRODUCTS & SERVICES

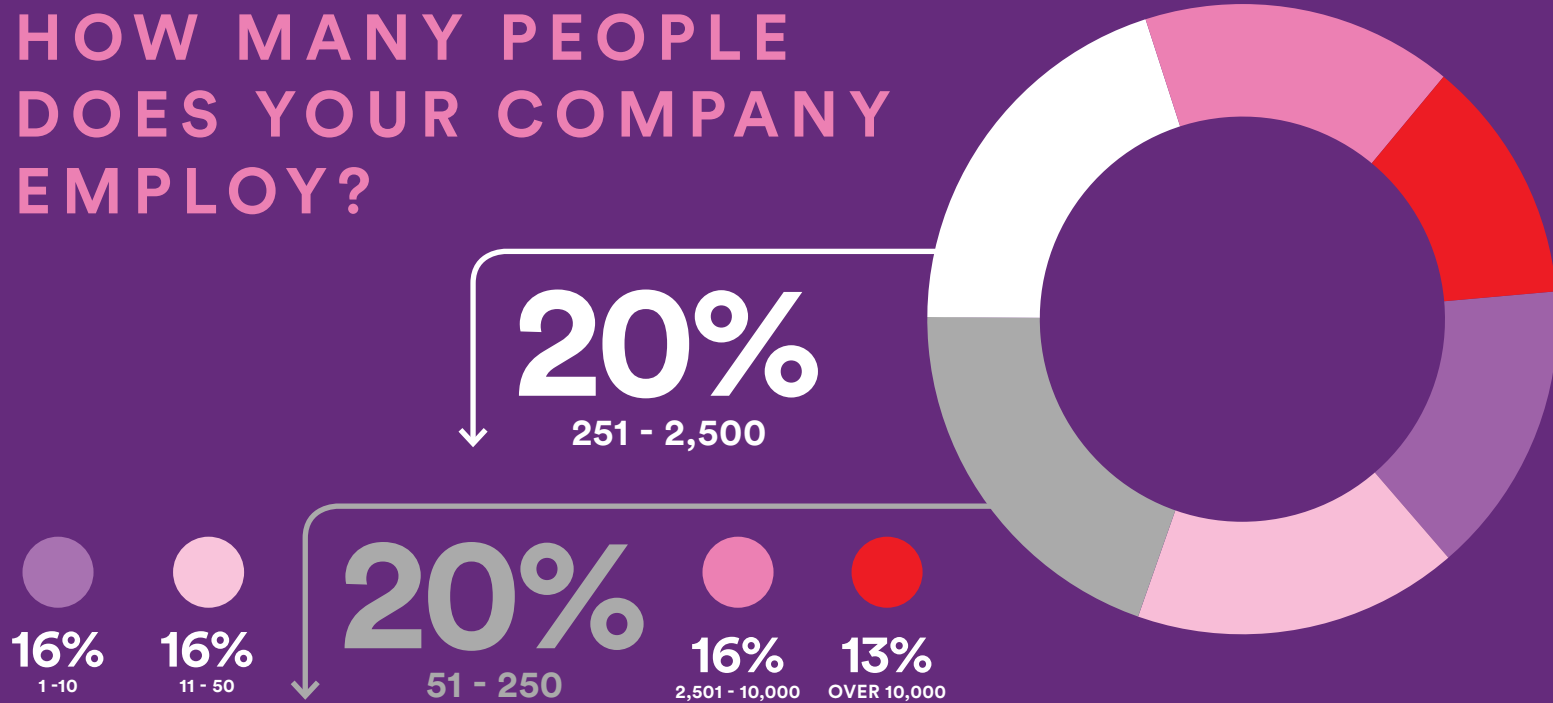


14%

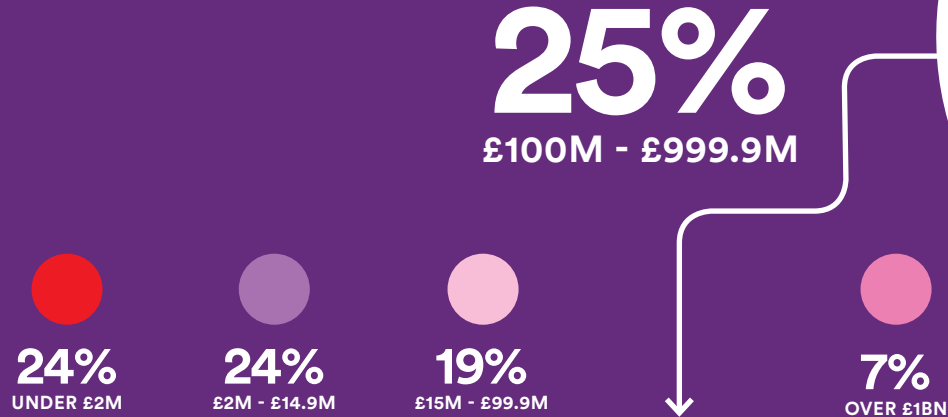
PROVIDER OF
DIGITAL PRODUCTS
& SERVICES



HOW MANY PEOPLE DOES YOUR COMPANY EMPLOY?

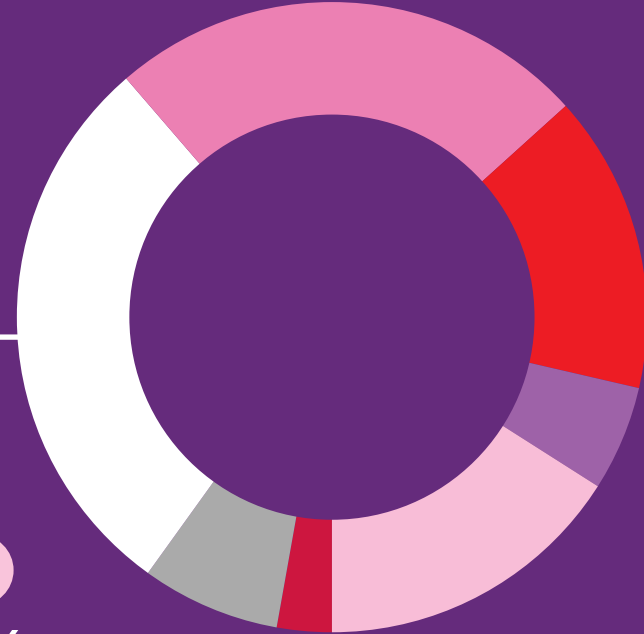


WHAT WAS YOUR COMPANY'S ANNUAL UK REVENUE IN 2014?



HOW LONG HAS YOUR COMPANY BEEN IN BUSINESS?

29%
6 - 15 YEARS



ABOUT US

VIRGIN MEDIA BUSINESS IS THE ARM OF VIRGIN MEDIA THAT PROVIDES PRODUCTS AND SERVICES TO UK BUSINESSES AND THE PUBLIC SECTOR.

We have more than 36,000 business customers, most of them small and medium enterprises. We also partner with the public sector; with local councils, and thousands of schools to improve connectivity in communities and support learning; and with the emergency services to enable them to efficiently perform their life-saving skills.

We're part of the Virgin Media group, the UK's first provider of all four broadband, TV, mobile phone and home phone services.

Virgin Media is a part of Liberty Global plc, the world's largest international cable company. Together Virgin Media and Liberty Global serve 27 million customers across 14 countries, helping connect people to the digital world and enabling them to discover and experience its endless possibilities.

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