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**“This Is for Everyone”**  
*The Case for Universal  
Digitisation*



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## FOREWORD

Every day, the media is full of debate and challenge about what kind of society the United Kingdom can and should build in this new “age of austerity.” How much should we spend on public services? How can we foster entrepreneurialism? How do we support a growing and an aging population? The questions are important, and yet I feel the debate often fails to reflect properly on one of the biggest changes to the world of the last 20 years, changes that can help us combat each one of these challenges more effectively.

*Digital* is too often seen as relating only to hardware or software issues. The enormous power digitisation has to transform our economic, social, and civic worlds is still ignored. I hope this report by Booz & Company will finally put the digital agenda at the heart of the agenda of economists, politicians, and social reformers. It is the first report I have seen that links these worlds together and gives us a complete picture of the scale of the opportunity now on offer to the U.K.

Yes, the £63 billion potential GDP uplift is eye-catching. Digital clearly offers growth, particularly to the small and medium-sized enterprise sector. But far greater digital capability offers so much more: improvements in education, connecting the elderly and isolated to their communities more effectively, helping people back into work, and better health and social services. All these benefits make their greatest impact on the lives of the marginalized sections of society.

There are 10.8 million people in the U.K. who do not use the Internet, and they are consequently more vulnerable. As Booz & Company shows, this is no longer something we can dismiss as somebody else’s problem. We gain the full benefits ourselves only if *everyone* is online. The lack of basic digital skills for millions means “digitisation” is unbalanced—we will increasingly fall short of the U.K.’s potential if we do not start to address the problem.

That’s why this is such an urgent national priority and why Go ON UK, a cross-sector charity, which I chair, is taking a lead in broadening the skills of individuals and organisations. But it is too big a job for even this impressive group of partners. The U.K. should grasp this moment to shape its own digital future. It should be a future in which no one is left behind and in which the benefits of digital are shared by all. That’s why I ask everyone—individuals, families, charities, businesses, and the government—to help unlock the powerful social and economic prize that waits us.

As Tim Berners-Lee said: “The Web as I envisage it, we have not seen it yet. The future is still so much bigger than the past.”

My thanks to Booz & Company for their valuable work.

*Martha Lane Fox*

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## PREFACE

This report was written by Booz & Company with Go ON UK and its founder partners. Its purpose is to present the socioeconomic case for universal digitisation.

The foundations of the analysis and observations made in this report are a combination of proprietary Booz & Company findings and data provided by Go ON UK and its founder partners and third-party sources.

Booz & Company conducted the analysis and prepared this report. Our purpose, and that of Go ON UK, are the same: to highlight the socioeconomic case for digitising the United Kingdom, to describe the benefits to individuals and organisations that the Internet can bring, and to stimulate debate on a potential future course of action.

In bringing a body of quantitative research to bear on the study of the social impact of digitisation, we recognize that much more needs to be done. We hope that this report acts as a catalyst to encourage further research, including longitudinal studies, about the social impact of digitisation, its effect on the lives of individuals, and its influence on the effectiveness of organisations, in the U.K. and throughout the world.

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## EXECUTIVE SUMMARY

*At the heart of the opening ceremony of the London 2012 Olympic Games—a typically British celebration of the history and culture of the United Kingdom—was a vision of a digital nation. As Sir Tim Berners-Lee, inventor of the World Wide Web, tweeted from the centre of the Olympic Stadium, around him unfolded a rich narrative of the people of the United Kingdom, from all walks of life, connecting via the Web. The message to the world was clear: The U.K. is a modern, technologically advanced nation leading the global charge into the digital era.*

*But is this true? Is the U.K. fully exploiting the potential offered by digitisation to support and promote its economic and societal well-being?*

*By all measures, the U.K. is a leading digital nation. It is ranked 12 out of 150 on the Booz & Company Digitization Index,<sup>1</sup> which compares the state of progress for nations around the world. In its digital foundations—the confluence of an affordable, fast, and robust broadband network of infrastructure, public- and private-sector digital services, and residents with a high level of education—analysis shows that the U.K. has a very strong platform for future development.*

*But it is not where it could be. The U.K. is not maximising the potential offered by digital technologies, because too many individuals and organisations are either not using them to their fullest or not using them at all. We estimate that the U.K. could have increased its annual 2011 GDP by up to £63 billion if it had achieved global leadership in digitisation.*

*In the 19th and early 20th centuries, near-universal electrification transformed the lives of everyone, profoundly improving the lot of the most vulnerable. Digitisation could have a similar impact. However, its benefits are not unlocked just by flicking a switch. Realising the full digital potential of the United Kingdom will require a holistic approach from government, businesses, and members of the community,*

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*working together to connect with the individuals and organisations now missing out on the benefits of being online.*

*We propose a three-pronged strategy to fully unlock this potential.*

*First, we need to continue investing in the digital foundations to improve the digital infrastructure, develop more and better online services, and bolster human capital.*

*Second, we need to promote Internet usage. This means reaching out to individuals and organisations that are not online to ensure they have easy access to digital technologies, are aware of the benefits of being online, and have the basic digital literacy skills needed to engage with the digital world.*

*Third, we need to encourage the innovations and entrepreneurship of the private and not-for-profit sectors. As digital platforms expand through the U.K., companies and organisations will create new forms of value-adding enterprise. This needs to be encouraged and abetted.*

*In this report we argue that universal digitisation has the potential to unlock substantial economic and social benefits for four sectors in particular: individuals, small and medium-sized enterprises (SMEs), charities, and government.*

- *Individuals can expect better quality of life through improved education, health, wealth, and well-being:*
  - *Improving education outcomes; Web-based learning can increase levels of engagement and attainment*
  - *Improving employability; digitisation promotes more effective job-hunting and flexible working arrangements*
  - *Improving health and well-being; studies show digitisation can raise the quality of diagnosis and care, through remote monitoring and other innovations*
  - *Reducing isolation; access to the Internet can help elderly users stay connected to friends and family*

- *Small and Medium-Sized Enterprises drive economic growth:*
  - *Supercharging revenue growth; digital technology can enable SMEs to unlock as much as £18.8 billion in incremental revenue*
  - *Streamlining the cost base; digitisation can help channel scarce resources and help businesses expand more effectively*
  - *Boosting the service sectors; as they invest in digitising their offerings SMEs could improve customer satisfaction and retention*
- *Charities can make a bigger impact for less cost:*
  - *Significantly enhancing fund-raising potential; digital technologies can more effectively link donors with worthy causes*
  - *Transforming operations; the right technologies can lower operating costs and enhance the reach of not-for-profit organisations*
- *Government can better meet the goals of constituents through universal digitisation:*
  - *Cost savings; central and local governments can potentially recoup £5.1 billion annually with the digital delivery of services*
  - *Meeting environmental challenges; governments can make use of digitisation to reduce CO<sub>2</sub> emissions*

*Research suggests that countries that lead the world in promoting affordable access to the Web, and that successfully adopt new digital models of public- and private-service delivery on a large scale, can unlock new economic growth opportunities.*

*In the words of Sir Tim, #this is for everyone.*

## Highlights

- **Digital foundations matter:** Powerful infrastructure, high-quality services, and depth of (technical) human capital combine to create an online environment of considerable value.
- **Usage matters even more:** The extent to which individuals and organisations exploit the potential offered by a country's digital foundations determines how much benefit the country realises.
- **Universal digitisation is possible:** Society changes for the better when individuals and organisations in every sphere can fully exploit the potential benefits of being online.

## 1. INTRODUCTION: A VIRTUOUS CIRCLE

Sir Tim Berners-Lee's now famous Olympic Games opening ceremony tweet, "This is for everyone," intentionally referred to the inclusive nature of the Internet.<sup>2</sup> Regardless of age, social status, or any other factor, all individuals and organisations can be part of the digital revolution and can benefit from the range of opportunities offered by the digital era.

The United Kingdom has demonstrated itself to be a leading digital nation. This is reflected in its consistently high rankings in indices of digital maturity:

- The Booz & Company Digitization Index (DI) ranks the U.K. 12th among nations, based on the speed, reliability, and ubiquity of infrastructure; affordability of access; usability of services; and skills of the population.
- The World Economic Forum's Networked Readiness Index (NRI) ranks the U.K. 10th, on the basis of

the impact of technology on international competitiveness.

- The Web Index (TWI), produced by the World Wide Web Foundation (a group that Sir Tim founded), ranks the U.K. third, on the basis of a broad suite of measures representing the social and economic value of the Web.

But the United Kingdom's current digital status may not be enough to remain competitive in a highly turbulent global economy. The challenge for the U.K. is to further enhance its position at the leading edge of digital advancement, leveraging the full range of transformative technologies to deliver economic and social benefits to all of society.

This can be accomplished, in part, by building up the country's digital foundations. Strong digital foundations have three core elements. There needs to be an affordable, accessible, fast, and robust digital broadband *infrastructure*. This needs to be populated with innovative, high-quality public- and private-sector digital *services*. Sufficient levels of *human capital* (including technical expertise) must exist to drive technological advancement and spur innovation.

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These three elements—infrastructure, services, and human capital—combine to help determine the U.K.’s maximum potential value from digitisation. Enhancing the digital foundations, for example, by upgrading to 4G mobile broadband and promoting greater service innovation within the technology community will increase the U.K.’s digital potential.

But the digital foundations represent only half the story. The other half of the story is usage, the extent to which people are active with digital technologies and applications, incorporate them into their lives and work, and gain benefit from them. It is possible to create a virtuous circle of benefits from digitisation—in which improvements in quality of life and lowering of costs continually reinforce each other—only if universal digital usage becomes a priority. That means putting in place the services, access points, and training necessary to allow people to take advantage of the technology.

Some may object that digitisation has already spread far enough. Observers talk about children playing online instead of engaging in outdoor sports, electronic contact replacing richer

face-to-face experience, the loss of work–life balance as people are overwhelmed with digital contact, concerns about loss of privacy as people’s purchases and activities are recorded, and other potential dangers. These concerns are clearly worth raising; they need to be addressed, in some cases by behaviour changes among individuals, and in some cases by society at large. However, all of these problems are related to those parts of digitisation that are already in place. Even if progress stops today, the problems will remain with us; arguably, they will grow worse unless individuals and organisations learn how to manage the integration of digital technologies into everyday life.

The ability to manage these problems, and to find appropriate and equitable solutions for them, is only possible when government, the not-for-profit sector, the private sector (particularly SMEs), and individuals advance their levels of digital maturity. More open, transparent, and effective use of technologies makes it far more feasible, in our view, to find solutions. For example, the problems of work–life balance are partly resolved by the reduction of time spent commuting; the problems

of isolation are partly resolved when individuals make online contacts that lead to face-to-face connection; and privacy-related problems, which will probably be an ongoing source of concern for the foreseeable future, can be resolved only by improving both standards of online services and general individual awareness of online safety.

The U.K. government has already made a commitment to future investment in digital foundations, to keep the infrastructure competitive. More now needs to be done to promote usage, that is, to get the 10.8 million adults who do not use the Internet and the two-thirds of SMEs and one-fifth of charities that have little or no presence online to unlock the value of the digital foundations. The government can play an important role by migrating more of its services, in both local and central government, online, and by promoting (through its tax and fair practice laws) a robust and trustworthy online retail environment for consumers. As usage increases, this should open doors for renewed investment on the part of both the public and private sectors in a manner that is economically viable and sustainable.

### Highlights

- Digitisation represented by investment in digital foundations and usage has contributed £860 billion to world GDP over the last five years.
- The U.K. could have increased its 2011 GDP by up to £63 billion if it had achieved global digital leadership, as defined by the Booz & Company Digitization Index.

## 2. THE DIGITAL NATION: THE VALUE OF DIGITAL LEADERSHIP

Our assessment of the United Kingdom's potential is based on a comparative analysis of the digital maturity of nations, using econometric modeling techniques to estimate the impact that this digitisation can have on a nation's GDP. The Booz & Company Digitization Index, introduced in 2012, ranks 150 countries on their level of digital advancement (see *Exhibit 1*).

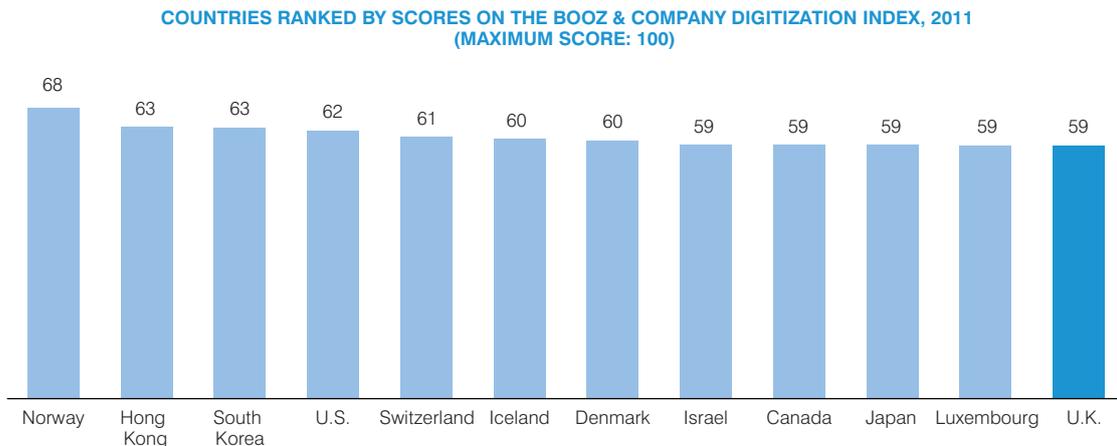
The index is calculated by quantifying 23 key metrics, which provide either direct or proxy indicators for the maturity of the country's digital foundations and digital usage. Based on 10 years of historical data, the Booz & Company Digitization Index has been stress

tested for statistical significance and correlation with changes in GDP. A more detailed description of the methodology, which has been peer-reviewed by the academic community and was included in the 2012 World Economic Forum report on digitisation, can be found in Booz & Company's "Maximizing the Impact of Digitization."

Correlation is not causality, of course, but a close look at the index suggests that over the past five years, digitisation may have contributed as much as £860 billion to world GDP. These gains are not distributed evenly among nations. Countries that invest heavily in digital technology have enjoyed higher levels of economic growth—up to 24 percent more than their more analogue-constrained neighbours.

The index also seems to confirm the idea that both dimensions of digitisation—access to full digital foundations plus usage—have more impact than the foundations alone. Previous studies that focused mainly on

**Exhibit 1**  
**The Digitization Top 12**



Source: "Maximizing the Impact of Digitization," Booz & Company, 2012; analysis updated to September 2012

broadband coverage estimated that a 10 percent increase in penetration contributes a per capita GDP gain of just 0.16 percent to 0.25 percent. The Booz & Company Digitization Index, which measured both the direct and indirect economic impacts of digitisation, found that an increase in the Digitization Index score of 10 percent correlates with a 0.50 percent to 0.62 percent gain in per capita GDP.

### The anatomy of digital maturity

The Booz & Company Digitization Index consists of 23 metrics that measure the state of a nation's

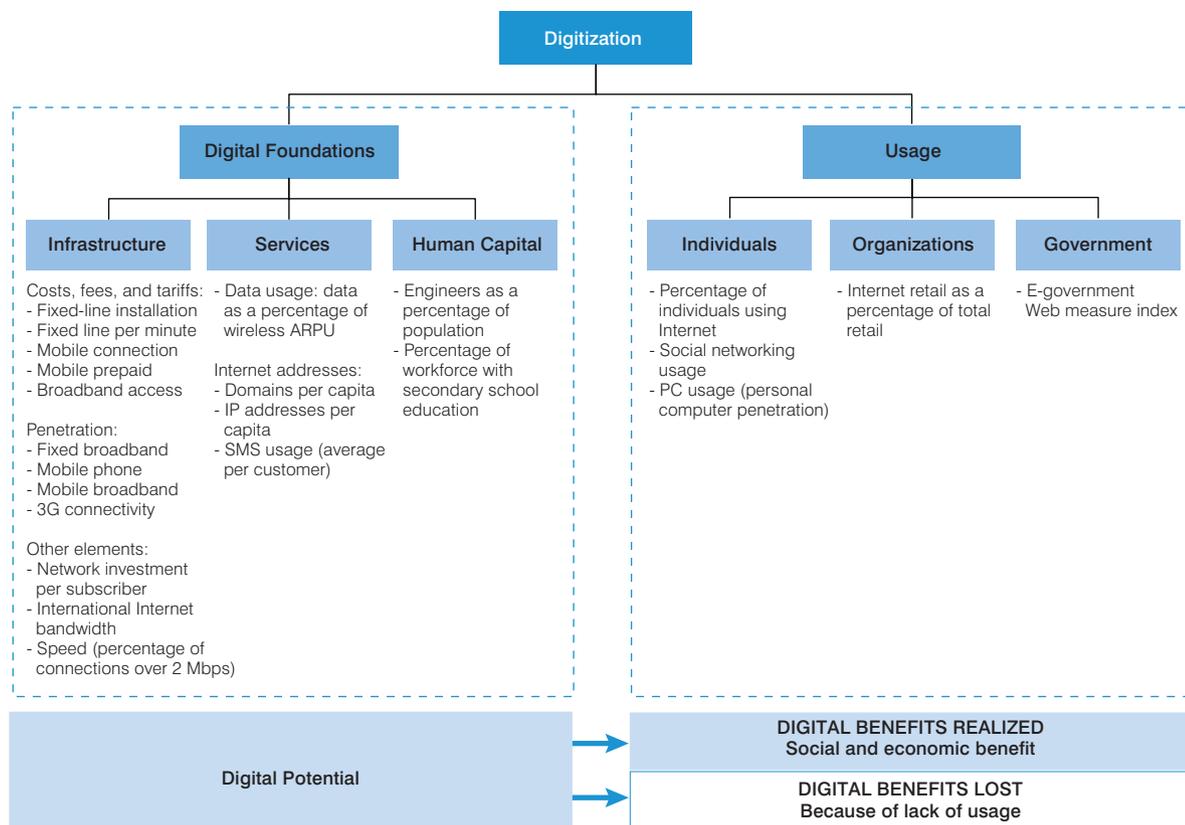
digital maturity. For our in-depth analysis of the U.K.'s progress in digitisation, those metrics were analysed in more detail. These metrics have been distributed across digital foundations—infrastructure, services, and human capital—and usage (see Exhibit 2). What follows is an assessment of where the U.K. currently stands in terms of its digital maturity and the value of achieving digital leadership.

### Infrastructure: The U.K.'s backbone

For those individuals and organisations that are online, an afford-

able, fast, and robust infrastructure underpins the digital experience. As of 2011, 89 percent of all Internet connections in the U.K. were faster than 2 megabits per second (Mbps). The country's average connection speed in mid-2012 was about 5.7 Mbps. Overall Internet speeds in the U.K. have advanced every year and, thanks to a highly competitive market,<sup>3</sup> prices have fallen at the same time. Since 2005, average headline broadband speeds have improved at a rate of 46 percent per year, and U.K. prices have dropped 8 percent per year. Although its average speed

Exhibit 2  
Components of the Booz & Company Digitization Index



Note: This is a simplified representation of the Booz & Company Digitization Index. For the full construct and indicators classification, refer to "Maximizing the Impact of Digitization," Karim Sabbagh, Roman Friedrich, Bahjat El-Darwiche, and Milind Singh, Booz & Company, 2012, [http://www.booz.com/media/uploads/BoozCo\\_Maximizing-the-Impact-of-Digitization.pdf](http://www.booz.com/media/uploads/BoozCo_Maximizing-the-Impact-of-Digitization.pdf).  
Source: Booz & Company

is adequate for most users today, the U.K. is lagging behind several other countries in the overall rollout of superfast broadband (*see Exhibit 3*).

The government has committed to a target of 24 Mbps for more than 90 percent of the country by 2015, which will undoubtedly have a major impact on overall average speeds. But speed in itself is not enough to encourage usage. Ofcom (an independent regulatory authority for U.K. communications industries) has noted that in 2011 superfast coverage of the U.K. was at 60 percent, but only 6.6 percent of all connections were taking advantage of the top speeds. This suggests that focusing on availability is no guarantee of deriving full benefit from the investment.

**Services: Truly world-class**

The U.K. already has world-class, if not world-leading, digital services, across the private and public sectors. For example, U.K. citizens are twice

as likely as their average Organisation for Economic Co-operation and Development (OECD) counterparts to order or purchase goods online. They spent £68.2 billion on online shopping in 2011.<sup>4</sup> The U.K.'s proportion of retail sales conducted via the Internet was 9 percent,<sup>5</sup> second-highest in the world, behind South Korea. However, the lion's share of this revenue is being earned by large multinationals. Amazon alone accounts for 21.4 percent of the online entertainment market.<sup>6</sup>

U.K. firms, particularly smaller companies, are failing to capture the opportunity afforded by high domestic demand for online retail. One-third of SMEs have a digital presence, but only 14 percent of SMEs in the U.K. sell online, compared with 30 percent in Norway.

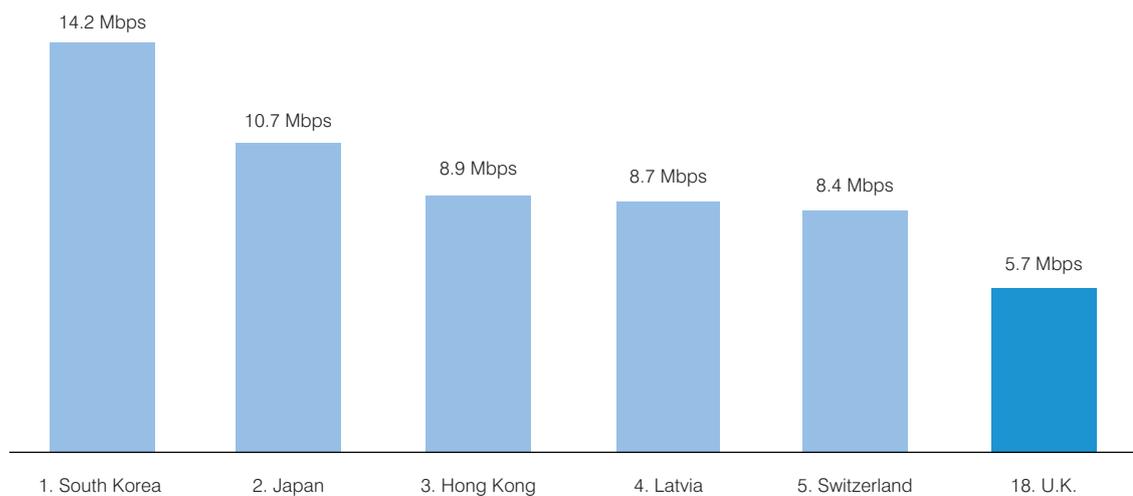
Social media is also active in the United Kingdom. U.K. citizens are inveterate social networkers, 65

percent of the online population using a social network every month.<sup>7</sup> Small businesses, however, are not taking advantage of this. Although 18 million Britons have used social media to interact with brands,<sup>8</sup> only about 1 percent of small businesses are selling via the same channel.<sup>9</sup>

E-government is less advanced. As of mid-2012, 300 of 650 central government services had yet to be placed online, although a number of services had moved swiftly to digital channels. These include Companies House, Land Registry filings, HMRC Self-Assessment income tax, and the DVLA road tax service.

That said, the United Nations ranks the U.K. third in terms of its current online public service development.<sup>10</sup> The top spot goes to South Korea, which has focused on driving demand for its services. South Korea's one consolidated central government portal targets its users by their

*Exhibit 3*  
*Average Connection Speeds, Second Quarter 2012*



Source: Akamai

age, sex, and topic of interest.<sup>11</sup> For example, students can access customised services to allow them to study from their mobile phones, and the unemployed are automatically sent job opportunities.

### **Human capital: Education and engineering**

The development of human capital—defined as education attainment and the level of technical vocational standards—is a measure of a country’s ability to innovate in digital service provision and infrastructure development. The U.K. can boast some of the finest tertiary education establishments in the world, and it is still one of the destinations of choice for foreign students. But recent surveys show it does poorly in terms of general education standards. The U.K. currently ranks slightly below the OECD average for university graduation rates; approximately 36 percent of the population completes tertiary education.

British students are also shying away from technical subjects like engineering. The OECD Programme for International Student Assessment, commonly known as PISA, which tests 15-year-olds from 65 countries, ranked the U.K. 25th for reading, 28th for mathematics, and 16th for science.<sup>12</sup> The number of overseas students attending U.K. universities to study engineering increased by 12,308 from 1997 to 2007, but the number of U.K. engineering students declined by 5,769<sup>13</sup>: Overseas students now account for larger portions of the United Kingdom’s engineering and computer science graduates today than they did 25 years ago, and given current visa restrictions, most new graduates are likely to take their skills back to their home country. The U.K. has 0.1 engineers per 100 inhabitants, ranking 32nd globally behind countries such as Slovenia and Romania.<sup>14</sup>

Engineering as a profession is up to three times as common in South Korea as it is in the United Kingdom. The World Economic Forum’s NRI ranked the U.K. 20th in terms of overall quality of education systems but only 43rd in terms of math and science education.<sup>15</sup>

The long-term impact of these trends should be a worry for policymakers because human capital is a key lever for spurring world-class innovation in the digital age.

### **Usage: Digital haves and have-nots**

The U.K. is considered a nation of adopters with high levels of Internet penetration. Data from the Office for National Statistics suggests that 84 percent of adults have used the Internet. However, this does not take into account how regularly an individual uses the Web or if he or she has stopped using it. Recent data from the BBC suggests that the levels of individual usage in the U.K. could be as low as 79 percent.<sup>16</sup> This would place the U.K. well behind nations such as Norway and the Netherlands, which, according to the International Telecommunication Union, have usage figures of 94 percent and 92 percent, respectively.<sup>17</sup>

A 79 percent usage figure means that about one-fifth of the population—including 10.8 million people 15 and older—do not use the Internet at all.<sup>18</sup> In addition, the e-Learning Foundation estimates that 800,000 of the most disadvantaged schoolchildren in the U.K. lack home access to the Internet.<sup>19</sup> The BBC study found that of non-users, 71 percent are categorised among the three lowest socioeconomic groups, 51 percent are older than 65, and 50 percent have no formal qualifications.

Three main factors reduce usage of the Internet<sup>20</sup>:

- **Access:** Cost of service and lack of hardware can be barriers to getting online. Among working-age people in the U.K. (a government statistic that includes men aged 16–64 and women aged 16–59), 52 percent of non-users state that they do not use the Internet because it is too expensive and 62 percent state that they have stopped using it because they no longer have access to a computer. Among retired people, these figures are 44 percent and 69 percent, respectively.
- **Awareness:** Many people are not online because they are not aware of the range of benefits available. Seventy-nine percent of working-age non-users and 88 percent of retired non-users state a simple lack of interest as a reason for not going online.
- **Skills:** Using the Internet requires only the most basic digital literacy, yet lack of skills is cited as a key reason many people are not online. Indeed, 63 percent of working-age non-users and 78 percent of retired non-users state they do not know how to use the Internet.

There is a similar digital divide in the business sector in the United Kingdom. The Booz & Company SME digitisation survey suggests that only one in three SMEs communicates with its customers online. A Lloyds Banking Group PLC survey of U.K. SMEs and charities indicates that almost 20 percent of charities do not have a website, and many do not perform even the most basic of business tasks online. It also notes that 23 percent of SMEs and 35 percent of charities stated that they would require training and support to develop basic online skills.<sup>21</sup>

This lack of skills and usage, on the part of both individuals and organisa-

tions, is a key reason the U.K. is not maximizing digitisation’s value.

### The value of digital leadership

We ran three simulations using our econometric model to demonstrate the potential value to the U.K. of moving up to the top in each of the 23 Digitization Index metrics—the equivalent of having world-leading digital foundations and near-universal usage among individuals and organisations. Under each scenario, we measured the incremental GDP the U.K. might have had today under changed circumstances.

- *Scenario 1* shows results if the U.K. scored the same as Norway in each metric. (Norway tops the ranking of 150 countries.)
- *Scenario 2* depicts the U.K. if it ranked fifth for each metric (a world-class ranking).
- *Scenario 3* shows the U.K. moving to the first position for each of the metrics. In this scenario, the U.K. would be positioned as the world’s most advanced digital nation, in

terms of both its digital foundations and its usage, what we call world leadership.

The implications of the model’s correlations are compelling. By matching Norway (Scenario 1), the U.K. could have increased GDP by £14 billion. By moving into fifth place for each metric (Scenario 2), it could have added 1.7 percent to GDP, or £26 billion. Finally, by achieving the top spot in digitisation (Scenario 3), it could have increased its GDP by up to £63 billion, a 4.2 percent boost (see *Exhibit 4*).

### Looking forward

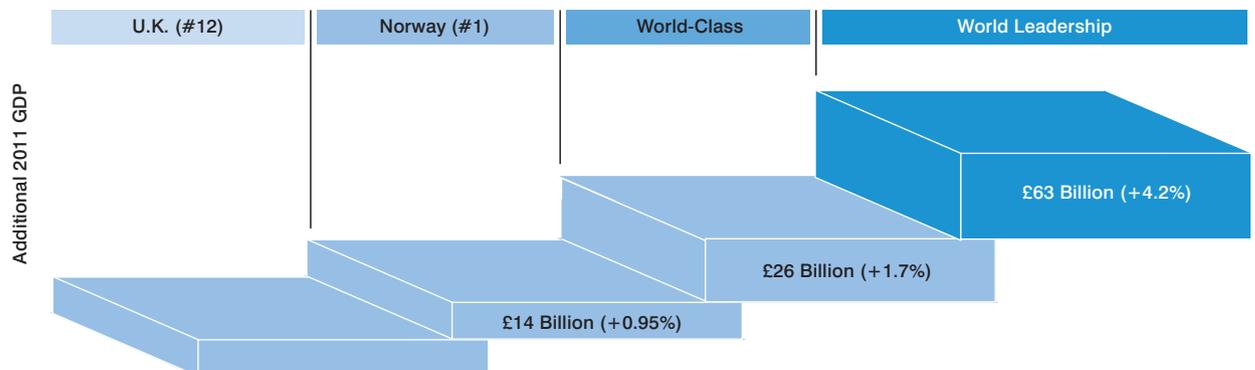
In recent years, much debate has centred on the need to develop the U.K.’s digital foundations: rolling out the superfast broadband network, creating “digital by default” services through the government, and improving technical higher education.

All of these efforts are important, but driving usage is the underexplored lever in terms of unlocking the U.K.’s full digital potential. Consider the example of the superfast broadband network, where 60 percent of homes

have availability but usage levels stand at 6.6 percent<sup>22</sup>: The digital foundations are there, but lack of usage is limiting the potential benefit of this significant investment. Given that almost one-fifth of the adult population does not use the Internet and that significant numbers of SMEs and charities are lagging behind in digital maturity, we believe that getting all individuals and organisations online and ensuring they are doing a lot more when they are connected should be a priority.

Chapters 3, 4, and 5 of this report illustrate the potential economic and social benefits of driving usage for individuals, SMEs, and charities. Chapter 6 discusses the government’s role in strengthening digital foundations and boosting usage. We know from analysis and experience that within companies, the efficiencies and benefits of digitisation tend to go straight to the bottom line. Implementing similar strategies across society presents tremendous challenges, but the indications are that it will also bring significant benefits.

**Exhibit 4**  
*The Value of Digital Leadership*



Source: Booz & Company

### Highlights

- Universal Internet usage among the young can significantly contribute toward improving education outcomes.
- Enhancing the digital skills of the U.K.'s working population will protect and improve employability.
- Digital technologies can play a major role in countering social isolation and depression, especially among the elderly.

## 3. INDIVIDUALS: ENHANCING HEALTH, WEALTH, AND WELL-BEING

The Internet has an immediate effect on the lives of those who use it. It connects them to news, media, friends, and family; saves them money on services; and opens a world of choice in consumer goods (see “*The Benefits of the Internet for Consumers*”). In the longer term, the Internet has significant tangible benefits for education, employment, and retirement.

Research suggests that digitisation helps people at every stage of their lives, from youth into working age and well into later life. Some of the benefits:

- **Education:** Digital learning tools can play an important role in improving education outcomes, raising standards, and preparing students for the world of work.
- **Employment:** Online job listings encourage job searching by the

unemployed, and Internet-enabled flexible work situations allow people to retain jobs they would otherwise have to leave.

- **Later life:** Digitisation allows older people to stay connected to friends and family, and helps counter depression; remote online monitoring has been demonstrated to help improve health outcomes.

### Education: Equipping and engaging students

The school environment is one of the last domains to resist wholesale change by digital technology. Although digital whiteboards and Internet connectivity are now commonplace in schools, relatively little emphasis has been placed on harnessing the Web to improve education standards, even though research has demonstrated measurable impact.

The Technology-Enhanced Learning Research Programme has worked with academics, industry representatives, and practitioners across the U.K. to understand the role of digitisation in the classroom. The group has stated that to “prosper in the 21st century, people need to be confident digital collaborators and communicators, discerning users of the Internet, and equipped with computational

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### The Benefits of the Internet for Consumers

**Consumer surplus:** In economics, the difference between a real-world price and any higher price that consumers would typically be willing to pay is known as a consumer surplus. The Internet is a considerable source of consumer surplus—in part because it provides content and services free that users would expect to pay for in the offline world. Free e-mail replaces the postal service. Free online video replaces cable. Free Skype connections replace international calls. And so on.<sup>23</sup>

Researchers at Stanford University and the University of Chicago calculate the consumer surplus derived from being online at between 5.2 and 7.1 percent of a person's income. That equates to around £1,400 for a person earning the U.K.'s median income.<sup>24, 25</sup>

**Reduced prices:** Those who shop on the Internet can save an average of £550 per year on consumer goods through online discounts. The figure exceeds £1,700 for the wealthiest individuals and £270 for the poorest 10 percent.<sup>26</sup>

**More choice:** Internet retailers are able to stock almost limitless supplies of products to suit the tastes of every user. Choice has a measurable financial benefit. A study by the MIT Sloan School of Management estimates this benefit to be worth seven to 10 times as much as the gains from just online competition and consumer discounts.<sup>27</sup>

thinking skills such as understanding how to use and write the computer programs that underpin e-mails, searches, and maps.”

Online learning, coupled with classroom tuition, can lead to better education outcomes. It is often preferred by students for its engaging, interactive content. Teachers benefit from being able to tailor their instruction for each child, using the data collected about children’s performance.

A number of pioneering schools are beginning to use technology to dra-

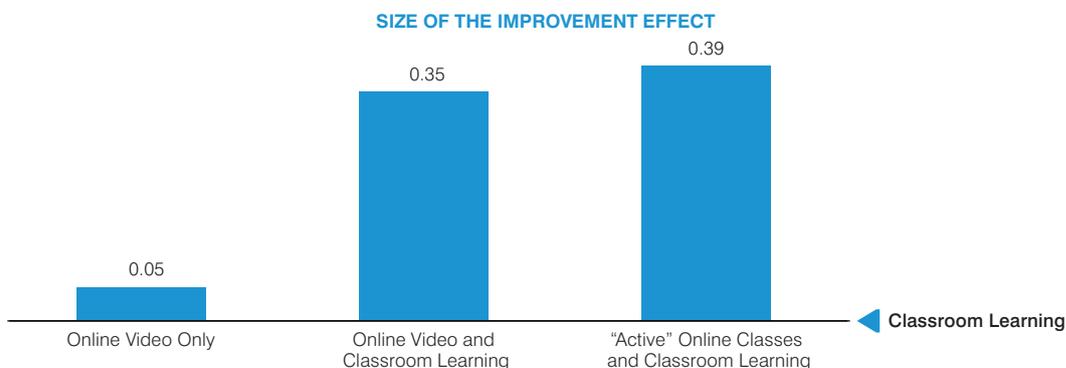
matically change classroom dynamics. Children work at their own pace through online classes via cloud computing services, and lessons at school are spent receiving focused tuition from the teacher, working on projects, or collaborating with peers.

An analysis of 50 studies by the Center for Technology in Learning found that online learning blended with face-to-face classroom instruction showed statistically significant improvements in education outcomes over traditional classroom learning alone (see Exhibit 5).<sup>28</sup> In a separate

trial, 58 percent of students indicated that they actively preferred studying from online videos to classroom learning alone. More importantly, in nine out of 10 subjects, students improved grades, and the course lowered expenditures for the school district.<sup>29</sup>

Technology helps deliver engaging learning materials that prepare children for the world of work. The OECD found that “Individuals who develop the skills needed to use [digital] texts efficiently and effectively will be at an increasing advantage in

**Exhibit 5**  
*The Effect of Online Collaborative Learning*



Note: Figures represent standard deviation from the previous norm  
Source: Center for Technology in Learning

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accessing higher education, finding and succeeding in a well-paid job, and participating fully in society.”<sup>30</sup>

The evidence has been so compelling that South Korea, already the world leader in teaching digital literacy, is looking to digitise its elementary-level education texts by 2014. In 2015 it plans to place the entire school curriculum on computers, smartphones, and tablets. The Ministry of Education will distribute free tablet PCs to low-income students and develop a textbook “cloud” where all books can be accessed. The required investment should not be underestimated; this will cost more than £1.3 billion (US\$2 billion) over the next few years.<sup>31</sup>

In the U.K., the Essa Academy, a 900-pupil state school whose students come mainly from disadvantaged communities, recently introduced a new strategy to transform the teaching environment that put technology at the heart of the learning process. Each student was provided with a tablet and smartphone—loaded with general certificate of secondary education (GCSE) revision podcasts and 100,000 textbooks—and encouraged to study at his or her own pace. Within two years of the programme’s

introduction, the proportion of A\* to C grades rose from 55 percent to 99.5 percent.

It will not be long before these ideas are widespread. The International Society for Technology in Education believes that the use of tablets and mobile applications will reach mass adoption by mid-2013.<sup>32</sup>

#### **Employment: Finding and retaining employment**

The Internet has revolutionised the way people search for employment. Because of the flexibility it offers, it can also help people keep their jobs, but only those already online can benefit from these opportunities. This disadvantages those who remain offline, primarily those with less education and lower income backgrounds, and perpetuates the “digital divide”—the gap in opportunity between the digital haves and have-nots.

#### **Job hunting online**

Today, both prospective employees and employers have better access to information—allowing the market to match job with job seeker more quickly, efficiently, and cheaply. The Department for Work and Pensions (DWP) found that there “was a significant and consistent increasing

trend among job seekers in the use of the Internet over time from 2006 to 2009.”<sup>33</sup> Those with an Internet connection at home were six times as likely to conduct a job search online as others.

More than 1 million young people are currently not in education, employment, or training (NEET). They are projected to cost taxpayers £4.2 billion a year.<sup>34</sup> This is a challenge not just today; it could become a significant burden on society for years to come.<sup>35</sup> The Internet cannot cure unemployment, but it can facilitate individual efforts to find work. The think tank Policy Exchange found that young people are particularly receptive to using online and mobile channels to get back on track. Three out of four young people already use online job-hunting sites; 92 percent said they would use an app to help them find work.<sup>36</sup>

A study by the National Bureau of Economic Research found that if Internet penetration rises 10 percent in a community, an individual within that community becomes 10 percent more likely to use an employment agency, 7 percent more likely to search for a job, and 2 percent more likely to send out a CV.<sup>37</sup>

In short, the Internet brings significant advantages to job seekers. Unfortunately, about 23 percent of young people are not using job search websites.

#### Flexible work arrangements

The flexible workplace—in which people can work anywhere at any time they choose—is an affordable reality with today’s digital technology. Until now, however, it has been challenging to convince people, their employers, and government that flexibility can benefit all of them. Given the wealth of studies that confirm the

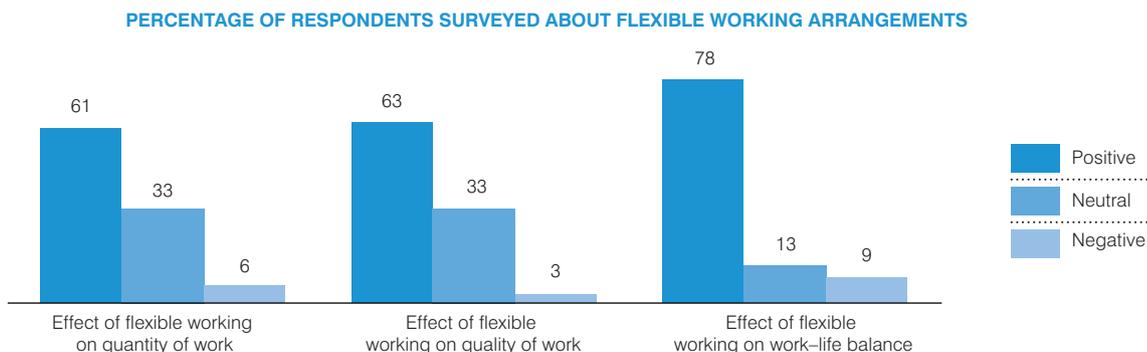
economic and social benefits, a shift to greater work flexibility would seem easy (see Exhibit 6). But nine-to-five schedules are enshrined in psyches, contracts, and international labour conventions. As a result, billions of people commute to work during daily rush hours.

In 2009, the DWP set up a task force with the “aspiration for the U.K. to become the leading economy for 21st century flexible working practices, supporting sustainable economic growth through improved work-home balance.”<sup>38</sup> The task force found

that businesses with flexible working arrangements saw the following positive results:

- **Recruitment:** 42 percent of businesses found it easier to attract people.
- **Staff retention:** 65 percent stated that it helped retain employees.
- **Productivity:** 58 percent reported productivity gains, more than half saying staff became more creative and innovative working outside the office.

**Exhibit 6**  
*The Effect of Workplace Flexibility on Performance*



Source: Cranfield University School of Management survey of flexible workers, managers, and colleagues

- *Absenteeism*: 38 percent saw a decrease in the number of days employees took off.
- *Loyalty*: 70 percent noticed improvement in employee relations.

Free to choose when and where they work, those with significant family responsibilities—including parents of young children and those caring for aging relatives—would also be able to contribute more. New parents could maintain a low level of engagement with their workplace during their leave, making reintegration easier. Companies that have piloted this arrangement experienced reintegration rates between 96 and 99 percent,<sup>39</sup> against a national average of 40 percent.<sup>40</sup> Given that the average turnover cost per employee is in the range of £8,200 to £12,000,<sup>41</sup> this could bring substantial savings to companies.

#### Later life: Promoting health and well-being

Getting old is not easy, particularly for the less well off.

- One-third of people over the age of 65 admit to feeling lonely some, most, or all of the time.

- Depression affects 20 percent of older people living in the community and 40 percent living in elder care homes, compared with 10 percent of the population at large.
- Heart disease, one of the biggest health threats to older people, is more dangerous for people with lower incomes; a man in the highest-deprivation group is up to three times as likely to die from chronic heart disease as a man in the lowest group.<sup>42</sup>

Technology offers tangible ways to help older people enjoy happier and healthier lives. It is not a “silver bullet” for the wider social and economic forces at play, but it is a tool that is currently underutilised. Fortunately, bringing people over age 65 online requires only basic levels of digital literacy. The challenge is making it happen.

#### Loneliness and depression

Social exclusion is a significant problem for the elderly, with damaging consequences to health and well-being. Today one in three people over age 60 can go a whole week without speaking to anyone, and one in 10 people spend up to a month without any human contact.<sup>43</sup> Depression is

closely linked to the degree to which people are socially isolated.

A growing body of research shows that using the Internet—for e-mail, video chat, or other human contact—leads to higher levels of well-being and mental health for the elderly. A U.K. study found that the prevalence of persistent social exclusion for older people without access to digital communication devices is almost three times as high as for those who have digital connections.<sup>44</sup> Another study found regular Internet usage by people over age 50 reduced depression by 20 to 28 percent. The researchers stated, “The ability to stay in touch with others and find support when needed are likely responsible for the beneficial impacts of Internet use on mental health among older adults.”<sup>45</sup> A study conducted at the Phoenix Center that looked at the relationship between depression and Internet access for more than 7,000 retired people, noted that “Internet use leads to about a 20 percent reduction in depression classification.”

Older people are also among the fastest-growing user groups of social networking sites. One study in the U.S.<sup>46</sup> showed that in 2010, among adults age 65 and older, “13 percent

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logged on to social networking sites on a typical day, compared with just 4 percent who did so in 2009.” Half of the social network users age 50 and over stated that they had used it to reconnect with a friend or family members with whom they had lost contact.

Extrapolating for the studies above, if Internet access helps to reduce depression in the elderly by 20 percent, in the U.K. that would reduce the incidence of depression by up to 220,000 cases.<sup>47</sup>

#### **The healthcare gap**

The gap between healthcare outcomes for the rich and poor is increasing. According to the *British Medical Journal*, “The last time in the long economic record that inequalities were almost as high was in the lead up to the economic crash of 1929 and the economic depression of the 1930s.” By making universal digitisation a priority and promoting usage, we can reach more of those who are falling behind.

Many long-term illnesses can be monitored via the Internet. Telehealth, the use of the Internet to provide healthcare, represents a significant opportunity to scale up the healthcare system efficiently, achieving better

outcomes for more patients at lower costs. Telehealth includes the remote monitoring of a patient’s health and environment to proactively assess the patient’s risk, often via automated question-and-answer sessions, sensors, and in some cases a videoconferencing system for consultations with a healthcare professional. The data feeds into a secure computer system that assesses an individual’s needs and risk profile, and proactively suggests care requirements.

A large-scale trial of telehealth in the U.K. produced dramatic results. Called the Whole System Demonstrator, the trial ran for four years, from May 2008 through September 2012, and involved more than 6,000 patients and 238 doctors. The study focused on individuals suffering from conditions linked to heart failure, lung disease, and diabetes. The sample group experienced a 45 percent drop in mortality, a 20 percent drop in emergency admissions, a 14 percent drop in elective admissions, and a 15 percent drop in accident and emergency (A&E) admissions.

Replicated throughout the National Health Service (NHS), a system like this would result in 44,000 fewer admissions, 210,000 fewer hospital bed days, and 620,000 fewer GP

appointments. Patients in their own home would have their medical condition monitored and managed regardless of where they lived or how far they were from a hospital. Real-time monitoring and analysis of the data collected would promote healthy lifestyle choices and help medical professionals and patients introduce preventive measures before conditions deteriorated.

As for costs, the U.K. Department of Health says that telehealth “could save the NHS up to £1.2 billion over five years.” The *British Medical Journal* has suggested waiting for deployment until results from a further four studies confirm its impressive efficacy and cost-effectiveness.

#### **Unlocking the benefits for individuals**

The Internet can be a leveler in a socially divided world; it can mean the difference between work and unemployment, inclusion and exclusion, and happiness and depression. We therefore argue that more needs to be done to increase Internet usage than just offering higher speeds and lower costs. Unless the people who are not connected today are aware of the benefits of being online, unlocking the full digital potential of the Internet will remain a dream.

### Highlights

- Research conducted by Lloyds Banking Group indicates that highly digitised SMEs tend to grow at a faster rate than less-digitised SMEs.
- Booz & Company estimates that annual total turnover of U.K. SMEs could be boosted by £18.8 billion if all of these firms sold and marketed online.
- It is estimated that SMEs could reduce their cost base by up to 20 percent by digitizing their back-office operations.
- Only 1 percent of U.K. SMEs make use of social media to generate revenue, whereas larger firms are rapidly investing in these technologies.
- A full 25 percent of SMEs say that a lack of basic digital awareness and skills holds them back.

## 4. ENTERPRISES: SUPERCHARGING THE ECONOMY

Small and medium-sized enterprises (SMEs)<sup>50</sup> make up the most dynamic, innovative sector of the U.K. economy. They generate 48.8 percent<sup>51</sup> of private-sector turnover in the U.K. and employ 59 percent of private-sector personnel. They grew 3 percent in the first half of 2012,<sup>52</sup> while the rest of the economy flatlined; still, they are not growing nearly as much as they could. In general, although it is impossible to prove causality from correlation, there is a clear link between online engagement and revenue growth (*see Exhibit 7*).

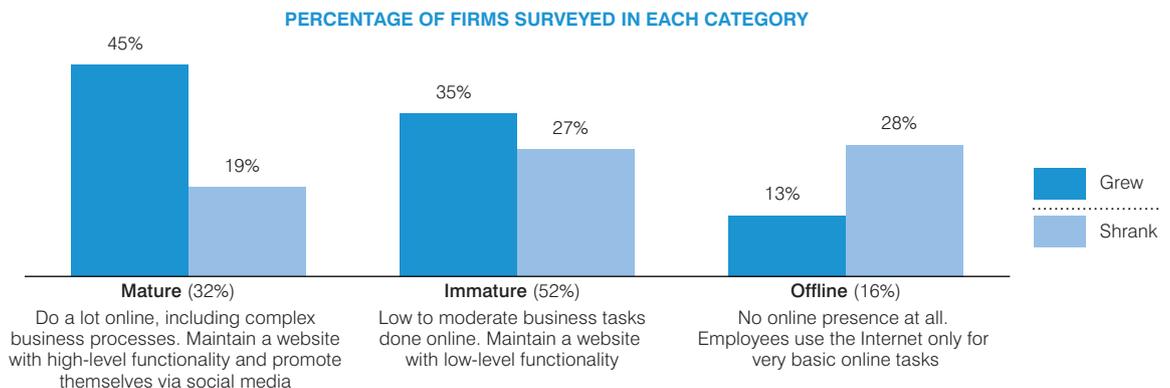
Larger firms within the SME segment are relatively digitally mature, and are already reaping significant benefits from digitisation (*see Exhibit 8, page 22*). By comparison, most U.K. SMEs lag far behind their international peers—in both

the front and back office. If these enterprises adopted digital technologies, thereby growing as fast as more digitised SMEs, Booz & Company estimates that they could unlock up to £18.8 billion of annual incremental revenues.<sup>53</sup>

Will the growth potential from digitisation translate into actual revenue growth for SMEs? That depends in part on the level of innovation and new enterprise that results. Some observers have suggested that revenue growth is a zero-sum game: that customers will simply migrate from less-digitized to more-digitized businesses, without growing the economic pie. But there is reason to think that genuine revenue growth will occur: that new forms of digital manufacturing, online retail, marketing, and other innovative businesses will create new sources of revenue—and, not coincidentally, new jobs for programmers, designers, and technologically skilled people, especially among SMEs.

The economic impact of other factors associated with digitisation—such as globalisation and the need

**Exhibit 7**  
*Well-Connected Firms Show More Growth*



Source: Lloyds Banking Group survey

for new skills—is also not clear. Studies specifically measuring the effect of teaching digital skills and promoting internationalisation to SMEs have not yet been conducted, and consequently the degree of cannibalisation from untrained firms is uncertain. However, the U.K. Department for Business, Innovation and Skills estimates these effects suppress the gains from digitisation by around 20 percent.

In the end, even if the economic benefit of digitisation is mitigated to some extent, it also yields the kinds of innovation that should, over time, produce higher levels of turnover. Enhancing the digital foundations and driving usage can help the economy move away from being a

zero-sum game, where every gained job must replace one that was lost.

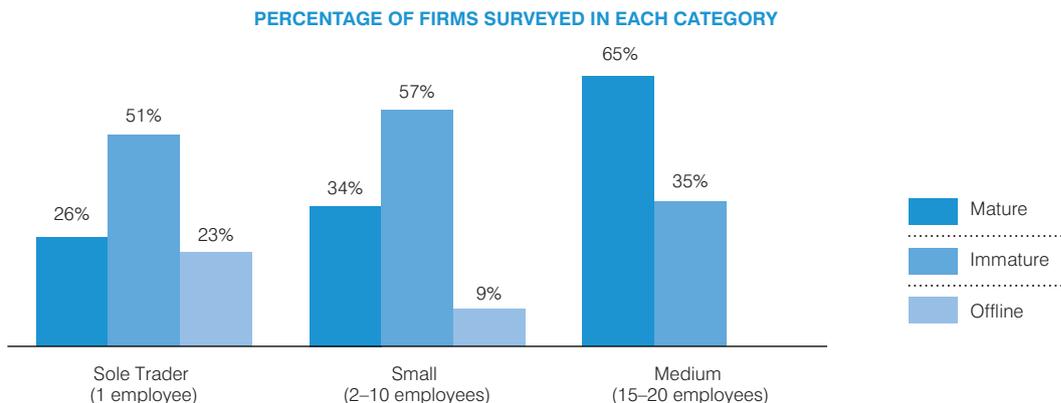
Companies do not have to start from scratch to introduce information technology. Off-the-shelf programs allow firms of all sizes to benefit from global digital marketing campaigns, advanced customer analytics, and seamless payments processing. A Booz & Company study found that integration with existing systems is the biggest hurdle for digitisation—ahead of cost. However, several off-the-shelf products available today integrate numerous functionalities, such as sales, inventory, banking, payments, and payroll, into a single end-to-end packaged solution. These packaged solutions can reduce or eliminate

the need to integrate with existing systems.

Such programs can also help enable a more flexible working environment. Today, entrepreneurs can sell their products and services to the world from anywhere. The two-thirds of U.K. SMEs currently not making maximum use of digital technologies are simply losing out.

To understand how digitisation is affecting small businesses, Lloyds Banking Group interviewed a representative sample of 677 business owners from different sectors of the economy. Those who are using the Internet across their business report significant benefits:

**Exhibit 8**  
*Smaller Firms Are Less Connected*



Source: Lloyds Banking Group survey

- *Faster growth:* 51 percent increased sales due to effective marketing and wider geographic reach.
- *Reduced costs:* 54 percent cut costs through back-office automation and electronic communications.
- *Improved customer service:* 54 percent improved levels of customer satisfaction, service, and retention.

For many of these companies, the move online was driven by customers or suppliers; business owners said they are three times as likely to implement technology because they feel they have to than because they think it will make them more competitive. Rather than waiting for their customers to prod them into action, however, SMEs should fundamentally rethink their approach to deploying technology and take proactive steps to exploit the Internet.

SMEs are starting to get the message that online channels are not exclusively for retail giants. GS1, the U.K. supply chain standards organisation, noted a trend of smaller retailers adopting e-commerce channels to supplement sales growth.<sup>54</sup> The demand is there.

In blind testing, shoppers said they prefer the e-commerce outlets of SMEs over those of large enterprises two-thirds of the time,<sup>55</sup> giving the sites better ratings for authenticity and ease of use.

Despite this growth opportunity, SMEs consider only 35 percent of their employees to be digitally savvy, and 24 percent of SME owners say their companies do not have the very basic skill level needed to use the Internet for business purposes, except for simple online searches.<sup>56</sup> There is a great opportunity to bring these companies on board.

#### Reducing costs

Booz & Company undertook an analysis of the levels of digitisation in the back office of more than 500 SMEs in four western European countries (the U.K., France, Germany, Netherlands) and one developing nation (Brazil). U.K. SMEs noticeably lag behind their international peers in the digitisation of three key business functions:

- *Commercial processes*, such as sales management and customer relationship management (CRM)
- *Financial processes*, including budgeting, planning, accounting, and reporting

- *People processes*, including payroll, benefits management, and flexible working arrangements

Paper-based processes are still used for most transactions, and only microbusinesses (typically sole proprietorships) and larger SMEs have managed to automate more than half of their commercial processes. Automating these processes using cloud-based online software would save money, increase productivity, and reduce environmental impact. (The “cloud” is the collective group of software and data facilities available online, operated remotely in technology centres, not owned by individuals or companies but accessed on a need-to-use basis.)

Market research firm Gartner Inc. has projected that cloud technologies will provide a 10 to 13 percent lower total cost of ownership than on-premise software tools.<sup>57</sup> A more recent study by the European Commission found even more dramatic savings; 80 percent of all organisations could reduce costs by 10 to 20 percent from the move to the cloud.<sup>58</sup>

Cloud technologies can also lead to increased productivity. A survey of more than 1,000 firms found such

*Shoppers said they prefer the e-commerce outlets of SMEs over those of large enterprises, giving the sites better ratings for authenticity and ease of use.*

technologies helped standardise data processes in 35 percent of businesses, and productivity rose in almost half the cases.<sup>59</sup> Switching to the cloud also reduces environmental impact and energy consumption. As resources are pooled, less power is used per business. A company can achieve up to a 90 percent reduction in its energy footprint by moving tasks online. However, 86 percent of small and medium-sized businesses are unaware of the potential savings.<sup>60</sup>

In a survey of 3,000 SMEs around the world, Microsoft found that SMEs are held back from adopting digital technologies because of a perceived lack of time and resources: 52 percent said they don't have the resources to train people, whereas 60 percent said they don't have the resources to implement new technologies and applications.<sup>61</sup> A concerted effort toward digitisation could help change that.

#### **Enhancing customer engagement**

Many individual consumers have embraced social media. They evangelise their “likes” and broadcast their disdain when things go wrong. An analysis by Forrester

Research found that 82 percent of marketers believe their social media presence is affecting their brand value.<sup>62</sup> By 2015, Gartner Inc. predicts that half of corporate Web sales will come directly as a result of companies' social media presence and mobile applications.

Yet a survey by telecom provider TalkTalk found that only 1 percent<sup>63</sup> of small businesses are currently using social media as a means of generating new business prospects. According to Booz & Company, companies today spend less than 5 percent of their digital marketing budgets on social media channels, though this will rise to more than 10 percent by 2015.<sup>64</sup>

This lack of engagement is driven largely by a skills deficit: 43 percent of SME leaders say they are “not comfortable” using the technology. The Lloyds Banking Group survey found that 31 percent of the SME leaders needed specific “training and support” in this emergent form of marketing.

Booz & Company conducted in-depth interviews with 117 leading marketing executives to

profile their growing dependence on social media for their strategy, skills, and internal processes. We found that as companies refine their use of social media, it transforms how they connect their brands with consumers, improving sales and other measures of engagement. SMEs need to come to grips with this new technology or they will cede yet more ground to larger rivals.

#### **The way forward**

The leaders of SMEs already know that digitisation will lead to greater growth. One recent survey found that 79 percent of U.K. business owners feel the Internet will make returning to growth easier after the global recession.<sup>65</sup> But U.K. SMEs must first invest in the skills needed to exploit digitisation and create growth. Otherwise, they will be forced to outsource more jobs, widening the skills gap at home and jeopardising the turnover potential of digitisation. To help avoid this situation, SMEs should be made aware that the benefits of digitisation can apply to them, even more than to big multinationals—with a resulting impact on the economy that could be immense.

*A company can achieve up to a 90 percent reduction in its energy footprint by moving tasks online.*

### Highlights

- Almost one-fifth of charities do not have a website.
- Charities that have deployed digital tools and built an online presence are already realising fund-raising and cost-saving benefits.
- The Internet offers the opportunity for charities to transform models of service delivery, enhancing reach and impact.

## 5. CHARITIES: BIGGER IMPACT FOR LESS

In economically challenging times, more people turn to the not-for-profit sector for help. Between October 2011 and October 2012, 69 percent of service delivery charities experienced an increase in demand and 70 percent predicted this trend would continue into 2013.<sup>66</sup>

But the tough economic climate also constrains donations. Although the Charities Aid Foundation reports that the estimated total amount donated to charity by individuals in the U.K. in 2010–11 was £11.0 billion (£400 million more than in the previous year) adjusting for inflation, donations overall were static.<sup>67</sup> One recent survey by the Institute of Fundraising<sup>68</sup> noted that 93 percent of fund-raisers felt the philanthropic climate had been harder in the past year, and 94 percent said it would be

more challenging over the next 12 months.

The U.K.'s charitable sector is effectively being asked to do more with the same or fewer resources. In the face of this challenge, voluntary organisations need to find new ways to motivate the donor base and innovative ways of providing their critical services to more people at lower cost.

Although large charities, like large corporations, display strong levels of digital maturity and are experiencing the benefits of digitisation, small to medium-sized charities are not. Charities can unlock digital rewards in three key areas:

- Greater fund-raising opportunities through the formation of strong donor networks
- Reduced costs
- Transformed models of service delivery

**The state of the charitable nation**  
The recent Lloyds Banking Group survey on Internet use covered the

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use of the Internet by 300 small to medium-sized charities; it divided the organisations into groups depending on their level of digital maturity: Those at the top end used digital technology for most business functions (including having websites for marketing and donations); those at the bottom, representing almost 20 percent of the sample, used the Web only for e-mail and searches.

The charities that used the Internet extensively noted a range of benefits in managing their relationship with donors:

- *Supporter interaction:* 73 percent stated that being online helped them to better interact with their supporters and form closer bonds with their donor base.
- *Attraction of new supporters:* 66 percent stated that an online presence had helped raise awareness of their work and bring in new supporters.
- *Fund-raising success:* 40 percent of the charities that had increased their technological maturity “a lot” over the previous two years

experienced growth in donations, compared with 25 percent of those that had increased their technological maturity “a little.”

- *Donations boosted by social media presence:* 35 percent of charities with a social media account had increased donations over the previous two years, whereas just 23 percent that had no social media presence had increased donations.
- *Cost savings:* 66 percent stated that being online helped lower operating costs.

A lack of basic business and digital skills in many small to medium-sized charities appears to be holding them back:

- A full 59 percent said that they would require training and support to use social media.
- More than a third (35 percent) said that they would benefit from basic online skills training.
- Only 12 percent said that when they had an Internet-related issue, they could deal with it in-house.

### **Enhanced fund-raising opportunities**

The market for Internet giving is in its infancy, but the potential is considerable. Charities need to build up their online capacity to take advantage of what is rapidly becoming a revolution in giving.

In 2011, 7 percent of U.K. donors used the Internet to donate, a 75 percent increase over 2009. One report has even suggested that the average offline donation in 2010 was £15 compared with an average online donation of £30, which would imply that when donors do give online, they give more.<sup>69</sup> The low percentage of online donations at the moment is likely a product of demographics: Older people give more, and fewer older people are online. But that doesn't mean the Internet is not influencing giving. Forty percent of givers conduct research online before they donate, no matter how they give.

The Internet offers charities new ways to connect donors more directly with the projects and people they are funding, giving them personal contact with the results of their giving, an aspect of charitable giving that donors like. This not only stimulates first-time givers to

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donate but also builds strong ties for repeat donations. Small and medium-sized charities can increasingly use third-party platforms so they don't have to invest significantly in in-house computer technology and skills, which, as we have seen, is a stumbling block for greater digitisation in the sector.

Kiva,<sup>70</sup> for example, is an online platform created in the United States that enables small, local charities to let contributors experience the direct impact of their participation. Contributors lend money to specific individuals around the world and receive updates on how their funds are being used. When the loans are repaid, the contributor has the opportunity to use the money to fund another project. Since 2005, Kiva has helped charities raise more than US\$350 million. The ability to provide funds directly to individuals or organisations creates a sense of global community, which keeps contributors coming back. The average registered Kiva contributor has provided funds more than eight separate times. See the Difference<sup>71</sup> is a U.K.-based platform that works in a similar manner; donors use the online interface to

select exactly what type of projects interest them—by sector, location, and size—and donate accordingly. Small charities provide updates online on their projects through short videos and basic statistics.

Using third-party aggregator websites like Kiva and See the Difference lets even the smallest community groups or projects gain wider exposure and provides ongoing communication with the donor base at little or no additional IT investment. Fees to charities for See the Difference are 5 percent of total donations.

Social media is another valuable tool in the fund-raising arsenal for small organisations. Today most U.K. charities with a social media presence use it to broadcast stories about their work, but a more proactive approach that engages with potential donors can reap greater rewards. For example, Kids Company, an organisation providing practical, emotional, and educational support to vulnerable inner-city children in the United Kingdom, used a partnership with clothing company Boden to raise money and build up an online community. Kids Company and Boden

ran a Facebook competition to find child models. Parents were charged £5 to upload photos of their children using the JustGiving Facebook app. The competition raised £30,000<sup>72</sup> and also enabled the charity to establish a social media connection with thousands of individuals likely to be responsive to future appeals.

JustGiving, which has helped generate more than £1 billion in donations over the last decade, estimates that by 2015, 50 percent of all donations made via the platform will come through social media sites. Considering that JustGiving charges a 2 to 5 percent fee on donations, social media fund-raising could be an important way of generating funds at a low cost.

In absolute terms, the amount of digital donorship and social investment still represents a small portion of today's fund-raising activity, but it is growing fast. Smaller charities should either embrace online opportunities offered at low cost through third-party platforms, or invest in the skills and technology required to maximise the potential from digitisation.

Although data on the overall scale of digital fund-raising in the U.K. is scarce (there is no credible source for an absolute amount donated through online channels), there is evidence to suggest that it is considerably more cost-effective than more traditional methods. On average, when it comes to funds generated through voluntary contributions and income earned by carrying out charitable activities, charitable organisations in the U.K. spend £1 to raise £5.45. Funds raised online can be much more cost-

effective; it has been suggested that a £1 direct investment in digital fund-raising can yield a £10 return.<sup>73</sup> Booz & Company analysis finds that if the U.K. voluntary sector could allocate an additional 10 percent of its fund-raising and publicity budgets away from more traditional channels and toward digital, its non-commercial income could potentially be increased by as much as £3.7 billion each year by 2017 (see *Exhibit 9*).

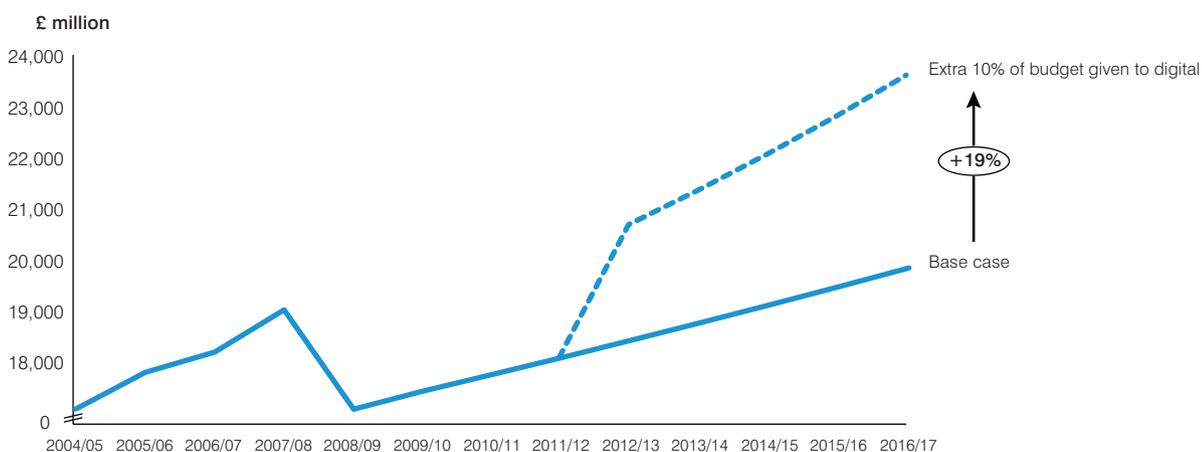
### Reducing costs

Digitisation can help organisations reduce costs and build efficiencies in the back office and in service delivery. Many of the cost-saving opportunities identified for SMEs can also be directly applied to charities. Charitable organisations also have the opportunity to reduce costs in several ways.

One vehicle is the use of better ICT services. Many small and medium-sized charities fail to implement

**Exhibit 9**  
*The Effectiveness of Digital Fund-Raising*

#### INCOME FROM VOLUNTARY DONATIONS AND FROM CONDUCTING CHARITABLE ACTIVITIES



Source: Booz & Company analysis

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optimum technology solutions because they do not know what to buy or where to buy it. This can scare them off purchasing or lead to poor investments. Fortunately, third-party organisations dedicated to working with charities can offer advice and help facilitate cost savings in the procurement of ICT assets and services. For example, the Charity Technology Exchange matches charitable organisations with large technology players that provide equipment and advice. Through the system, U.K.-based charities can request donated technology products from some of the largest global technology firms. These products are typically delivered at a savings of 92 to 96 percent over retail prices. The Charity Technology Exchange has calculated that if all eligible charitable organisations managed IT procurement in this way, the sector could save up to £300 million a year.

Other means for reducing costs can also improve workplace quality and raise flexibility. For example, due to the fast, cheap, and reliable digital infrastructure in the U.K., the possibility of virtual offices and remote working is becoming increasingly viable. This could have a significant impact on the charity sector. Many philanthropic organisations, especially those that have a wide national scope or

that work on a one-to-one basis with individuals, incur large travel costs. Flexible working and communication technologies such as videoconferencing can help charities save money. Cartrefi Cymru,<sup>74</sup> a charity that helps people with learning disabilities, found it saved up to £50,000 per year on travel costs through the use of videoconferencing.

Cancer Research UK staff work at multiple locations and often away from the office. The organisation has started using outsourced secured data centres and other forms of cloud computing to provide its staff with unrestricted access to central computer systems, their desktop files, and everyday applications. Through this initiative, the organisation is saving 20 percent on future operating costs, lowering its real estate overhead, and reducing travel expenditures.<sup>75</sup>

**Increasing skills by using e-learning**  
E-learning provides a powerful tool to help reduce the cost of training and was identified by the Charity Learning Consortium as a potential “hero of charity learning and development.” Various studies have shown that e-learning can reduce the cost of classroom training by as much as 70 percent.<sup>76</sup> The National Council for Voluntary Organisations mandates

that every staff member and volunteer receive five days of continuing professional development every year.<sup>77</sup> Given that 780,000 people are employed by voluntary organisations, and given a very conservative estimate of £100 a day for professional classroom training, this amounts to a cost of £390 million. A 70 percent decrease would make a significant difference.

#### **Transforming models of service delivery**

The most exciting aspect of digitisation for charitable organisations is the potential impact it can have on the way in which they deliver their services. This goes well beyond simply setting up websites.

Consider the case of Gingerbread. This not-for-profit organisation has been providing support and advice for (and with) single-parent families since 1918. There are currently 2 million single parents in Britain, raising roughly 3 million children. As a relatively small national charity, Gingerbread is limited as to how many people it can physically reach. For more than 10 years, Gingerbread has run a telephone help line. In 2010 it started exploring ways to offer online services and created a series of online tools to guide people to the appropriate advice, responding to

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e-mail requests and inquiries on its website. The website also provides peer support forums and training via Webinar technology.

In 2011, Gingerbread created a mobile version of its website to ensure that single parents looking for guidance and support on their mobile devices could get to it easily and clearly. More than 330,000 unique visitors were reached through the website. The telephone help line now focuses on more complex cases. Gingerbread's new three-year strategy is called "online first" because the organisation believes this is a key way to reach more of the people who need its services. Digital media is helping this organisation fulfill its goal of a society in which single-parent families are valued and treated equally and fairly.

Another case involves BeatBullying, a group launched in 2002 with the aim of helping young people so deeply affected by bullying that they can barely face going to school. BeatBullying engages them in supporting one another, and seeks to change attitudes and behaviour more broadly.

BeatBullying started going digital in 2007 with the launch of its YouTube channel for Anti-Bullying Week; within a few months it was clear this was a way to tap into a burgeoning and powerful way of working with young people.

Over the next two years, BeatBullying developed an Internet-based program called CyberMentors, which provides both online and offline mentoring for 11- to 17-year-olds. The CyberMentors model unfolded from a process of internal brainstorming sessions and consultations. By migrating the mentoring model online, it unlocked the physical constraints of one-on-one counseling. CyberMentors uses a safe social networking model to support excluded, vulnerable, and marginalised young people. Trained CyberMentors (also age 11 to 17), Senior CyberMentors (age 18 to 25) and counselors registered with the British Association for Counselling and Psychotherapy are available 365 days a year in real time, online, to guide and support young people on matters of well-being, referring them to specialist help and contracted

counseling when needed. Within the first 12 months, BeatBullying had increased its service provision by 600 percent. As of March 2012, there were 1,630,682 unique users, significantly exceeding the projected target of 850,000.

Most tellingly, bullying incidents have been reduced by an average of 58 percent among schools that deploy CyberMentors over a 12-month period. There has also been a general reduction in bullying and an increase in the reporting of bullying incidents. A full 45 percent of schools reported a reduction in Incidents of Concern (IoCs) such as detentions, and nearly 25 percent reported a reduction in exclusions related to bullying. Just over one-quarter reported a reduction in pupil absences.

Cases like these demonstrate the immense impact that digitisation can have in the not-for-profit sphere. They are not simply changing the way organisations operate. They are having a transformative effect on the people who need help.

## Highlights

- Governments have three major responsibilities in paving the way for universal digitisation—overseeing regulation, investing in digital foundations, and encouraging usage.
- Developing and promoting digital public services in the U.K. can save £5.1 billion per year, which can then be used for other national priorities.
- In partnership with the public sector, enterprises, charities, and individuals can further encourage digital usage, which, by increasing demand, could encourage further private-sector investment in infrastructure.

## 6. GOVERNMENT: ACHIEVING UNIVERSAL DIGITISATION

In Chapter 1 we described the three components that make up the U.K.'s national digital foundations: infrastructure, services, and human capital. The government, as regulator and investor, plays an important role in developing each of these elements. Government's level of engagement varies from regulation and subsidy in the case of infrastructure, to directly building or encouraging digital service creation, to setting policy focused on developing human capital.

As of late 2012, the government of the United Kingdom has pledged or delivered the following:

- *Infrastructure:* In December 2012 the government pledged £530 million toward ensuring rollout of broadband in rural communities and £150 million for “super-connected cities.”<sup>78</sup>
- *Services:* In September 2010 the government instituted a “digital by default” policy that will ensure that the half of the services that were

not online at that time have been brought onto the Internet or will be offered via Internet in the future.<sup>79</sup>

- *Human capital:* In January 2012 the government declared a renewed focus on teaching fundamental computer science in schools.

Migrating public services online is the government's best tool to boost usage because it gives people a compelling reason to use the Internet. Greater usage of Internet services could also encourage the private sector to invest in infrastructure—because the more usage there is, the more viable the business model. Therefore, by complementing its infrastructure subsidy (the £530 million investment pledge) with stimulation to increase usage (digital services by default), the government can help bring about more benefits to more people. The following section briefly describes how three governments, two in Asia and one in continental Europe, have increased Internet usage.

### Increasing usage: International policy perspective

The South Korean, Japanese, and Swedish governments have made increasing high-speed broadband usage a priority. As a result, the rate of growth in uptake in these countries has been among the fastest in the world even though there has not necessarily been a corresponding

increase in availability (see Exhibit 10). The policies they have adopted illustrate the opportunities for government, enterprises, and individuals to increase Internet usage in the United Kingdom.

**South Korea**

The growth in high-speed broadband usage in South Korea is among the fastest of any nation. The government achieved this through four key public policies<sup>80</sup>:

1. *E-government*: Aggressive rollouts of government services online starting as early as the mid-1980s,

culminating in a recent trial of electronic home voting

2. *E-working*: Promotion of remote working through specialised IT training programmes for the public-sector workforce

3. *E-learning*: Creation of the “Education Broadcasting System,” which includes free online tutorials for the national aptitude test for college admission

4. *Digital literacy*: Promoting universal rollout of broadband infrastructure, subsidizing the purchase of

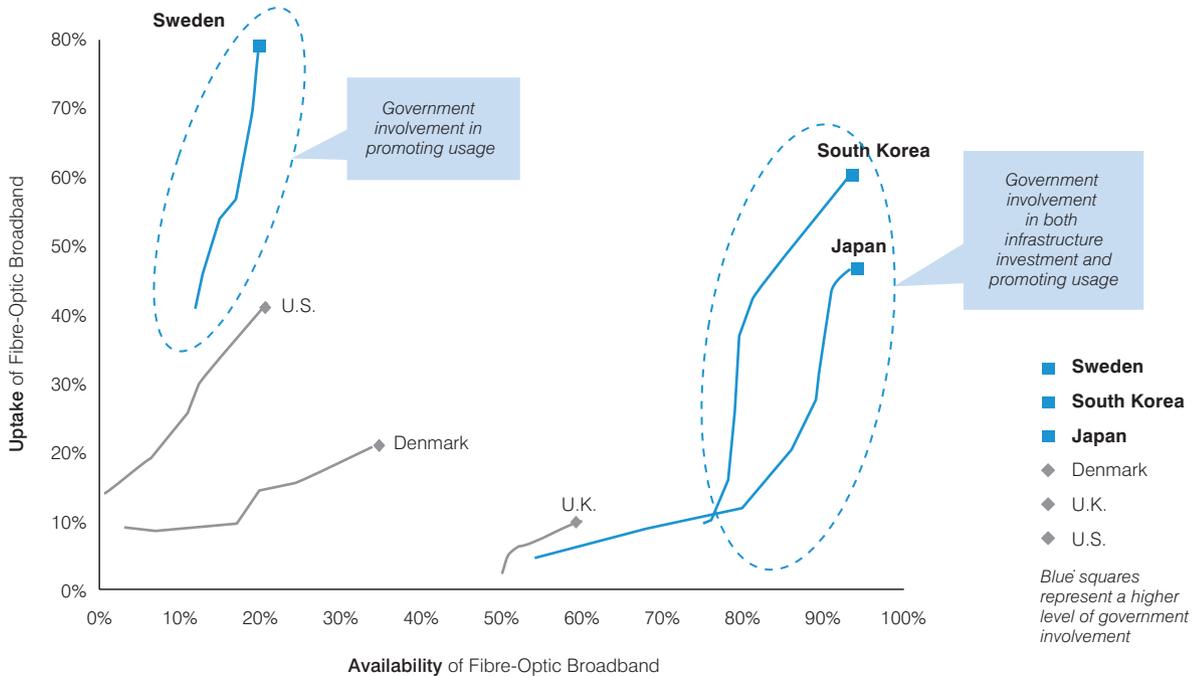
computers for low-income citizens and implementing a free national IT and Internet education programmes targeted at 11 million non-Internet users

More recently, the South Korean government has focused on developing customised online services and content for specific social groups to encourage their usage of the Web. It is also developing technologies to help the elderly and disabled get online.

**Japan**

The government placed an emphasis on streaming high-definition video on

**Exhibit 10**  
Country Examples of Fibre-Optic Rollout, 2003–12



Source: Fibre to the Home Council, Booz & Company analysis

demand over its national broadband network. Another significant driver for usage is the country's appetite for Internet phone services, which is supported by its own regulatory framework.<sup>81</sup> The government has also driven demand by putting all government agencies online; as a result, Japanese citizens complete up to 95 percent of transactions with the government online.<sup>82</sup>

#### Sweden

The government focused on digital literacy, access to personal computers, and use of broadband for education to encourage people to use high-speed broadband. Personal computers were subsidised via corporate tax deductions. Private-sector firms are also creating compelling Internet content that makes use of broadband capacity. Their programming includes, for example, dedicated IPTV (Internet protocol television) services for optic-fiber broadband subscribers, along with a video-on-demand service.<sup>83</sup>

#### Becoming digital by default

Governments and citizens have historically interacted via a bureaucratic system of paper forms, telephone calls, and face-to-face interactions. In addition to being slow and expensive, this tradition places an artificial distance between citizen and state. By

migrating the majority of its services online, government can alter this relationship, deliver innovative new services, and cut costs.

The United Kingdom's "digital by default" policy to move all government services online was instituted in 2010. Currently half of all government services are online, but 260 million transactions per year remain analogue. The final portion of change represents a significant cost savings opportunity for both central and local government. It is estimated that digitizing public-sector services can save about £5.1 billion annually, which could be spent on other national priorities:

- *Central government:* The Government Digital Service estimates that shifting offline transactional services to digital channels could save at least £1.8 billion annually.<sup>84</sup>
- *Local government:* Socitm, the professional body for ICT workers in the public and not-for-profit sectors, estimates that local governments could save up to £421 million<sup>85, 86</sup> by digitizing transactions and could cut CO<sub>2</sub> emissions by 28 percent<sup>87</sup> because of reduced travel and paper usage.

- *Healthcare:* The NHS estimates it could save £2.9 billion<sup>88</sup> by using online consultations, sending appointments via e-mail, using online appointment booking systems, and triaging patients via video consultations, among other Internet-based measures.

Because the migration of all public-sector services is likely to be slow, the government could promote a rich ecosystem of nimble not-for-profits, citizens, and private companies to develop interesting and efficient tools to use the government data that is already digitised. It is estimated that the value of public-sector data is already worth £16 billion a year for those who can exploit it.<sup>89</sup> But for the purposes of this report, the impact that packaging that data can have on usage is most interesting. For example, Duedil (short for *due diligence*) is the largest source of free private-company information in the United Kingdom. It aggregates 30 billion data points, including many from Companies House, allowing users to research the finances and organisational structures of U.K. companies. It drives a huge volume of people to Companies House services.

*It is estimated that public-sector data is already worth £16 billion a year for those who can exploit it.*

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## 7. CONCLUSION

Universal digitisation could unlock substantial social and economic benefits for the United Kingdom. By fully exploiting the potential offered by being online, the U.K. could supercharge its economy and, according to a variety of pilot studies, substantially improve the health, wealth, and well-being of its society.

Building our digital foundations—infrastructure, service, and human capital—will play a significant role in moving the country forward. However, the more pressing need is to increase usage to bridge the digital divide. Addressing the digital awareness and skills gap is essential to unlock the true scale of benefits offered by investing in infrastructure, skills, and human capital.

A growing body of research shows that the reasons for increasing our digital usage are compelling for individuals and transformational for nations. People benefit from consumer savings, better services, and instant communication. The metrics from the Booz & Company Digitization Index can predict the

potential growth impact of these changes. Our experience shows that businesses of all sizes benefit from well-implemented digital strategies. When we achieve universal digitisation, society moves closer to achieving its full potential.

Overcoming the barriers to increasing usage will require a concerted effort by society at large. Individuals and organisations often lack the skills they need to go online, the awareness of opportunities available to them, or access to hardware and software. Instilling digital literacy, ensuring affordable access, and advertising the benefits widely would catalyze a change in our economy and society.

Everyone has a role to play in the journey to universal digitisation. Government, business, charities, and individuals need to work together to lower the barriers to online engagement. Having built the digital foundations, we believe the time is right to promote usage, in a new and concerted way, so that we can truly say: “This is for everyone.”

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