



Rebooting Britain

In June 2009, the Government published *Digital Britain*. It addressed the the deployment of digital infrastructure, and the future shape of the UK broadcasting landscape in an increasingly digital world. But the digital bridges that the report sought to build are only part of the story. Just as important is the question of where these bridges will lead. NESTA's new collection of essays, *Reboot Britain*, addresses this question, asking what possibilities a digitally connected world offers the UK.

The time is ripe for this kind of radical assessment

Our economy is facing the worst crisis since the Second World War. Trust in political institutions has collapsed in the wake of the parliamentary expenses scandal. Urgent challenges such as global warming and an ageing population need to be addressed with resources that are now scarcer than ever. Britain needs a reboot, and digital technologies can play a pivotal role in it. The essays collected in *Reboot Britain*, from a group of thinkers at the cutting edge of digital innovation, present a more ambitious vision of what can be achieved through these technologies when they are deployed for truly transformational purposes.

New web-based platforms offer transformative economic, political and social benefits. They enable individuals to interact, create, collaborate and innovate in ways that were not possible before, and generate real revenues from the relationships they support. They can also make our political institutions more accountable and transparent, and improve the effectiveness and quality of our public services. Digital technologies can make it possible to build a public sector that is big in its inclusiveness, yet small in its costs and bureaucracy.

The government has a crucial role to play in ensuring that this potential is fulfilled, but it requires a new approach and mind-set. It needs to support those entrepreneurs and innovators that are creating economic and social value, to deploy its proprietary information and resources in new ways, and to acknowledge that the traditional models through which it operated in the past need to be adapted to the realities of an information-rich, connected world. If the UK is to meet the challenges it is facing it will need to harness the information, talent and creativity of all of its people. Digital technologies can help make this happen, so they should be put to the task.

Using digital bridges to reach real destinations

*Digital Britain*¹ sets out a vision of the digital information and communication sector aimed at bringing focus and stimulus to the sector. It also intends to be a "guide-path for how Britain can sustain its position as a leading digital economy and society". The language of infrastructures and channels, of large-scale works and machinery, permeates the report. This is an industrial language of bridges and water mains – of connectors and pipes – how they should be built and who should build them. Regarding what they might deliver, the emphasis is on content produced and distributed by large incumbent organisations following traditional broadcasting models.

Reboot Britain seeks to go beyond this. The UK is in the midst of a severe recession. The parliamentary expenses crisis has shaken our political institutions. Intractable social and environmental challenges need to be tackled urgently. *Digital Britain's* emphasis on 'infrastructure', 'content providers', 'intellectual property rights' and 'network operators' fails to create a compelling vision of what truly can be achieved with digital technologies – in this respect, it is a missed opportunity. The essays collected in *Reboot Britain*² are a response – they focus on the real-world destinations that digital bridges connect, on the way in which digital technologies, if deployed to address 'the stuff that matters', in the words of one of our authors, can transform the UK's economy, society and political institutions.

Although infrastructure will play a key role in enabling these activities, there are other complementary talents and energies that the UK should harness to reap the full economic and social benefits from digitisation. These must be part of the vision of the way forward. Otherwise, there is a risk that we will end up building digital bridges to nowhere.³

1. BIS (2009) 'Digital Britain.' Available at: <http://www.culture.gov.uk/images/publications/digitalbritain-finalreport-jun09.pdf>

2. NESTA (2009) 'Reboot Britain.' London: NESTA. The essays are also available at <http://www.rebootbritain.com/>

3. For example, the results of a recent survey carried out by Ofcom has shown that perceptions of usefulness will drive (or obstruct) mass uptake of broadband across the UK, regardless of price. See The Guardian (2009) 'Most people without internet have no interest in getting broadband.' 10 June 2009.

4. Benkler, Y. (2006) 'The Wealth of Networks: How Social Production Transforms Markets and Freedom.' New Haven: Yale University Press; Shirky, C. (2008) 'Here Comes Everybody: The Power of Organizing Without Organizations.' London: Allen Lane.

5. NESTA (2007) 'The New Inventors: how users are changing the rules of innovation.' London: NESTA.

6. This is a project currently being carried out by researchers at the Universities of Brighton and Rotterdam and the Massachusetts Institute of Technology.

7. For example, communities of volunteers develop Open Source software that underpins the internet's infrastructure, and is being monetised by innovative companies such as Red Hat. See The Economist (2009) 'Born free.' 28 May 2009.

8. See http://investor.google.com/fin_data.html

9. Wired (2009) 'Secret of Googlenomics: Data-Fueled Recipe Brews Profitability.' June 2009.

10. Business Week (2008) 'Has Facebook's Value Taken a Hit?' Available at: http://www.businessweek.com/magazine/content/08_33/b4096000952343.htm?chan=rss_topEmailStories_ssi_5

11. Gamasutra (2009) 'Games' growth outpaces other entertainment, to reach \$21.6 billion by 2013.' Available at: http://gamasutra.com/php-bin/news_index.php?story=24059

12. Freeman, C. and Louca, F. (2002) 'As Time Goes By: From the Industrial Revolutions to the Information Revolution.' Oxford: Oxford University Press.

13. PricewaterhouseCoopers (2008) 'Global Entertainment and Media Outlook 2008-2012.' London: PwC.

14. Ibid.

15. V3 (2009) 'Gartner predicts silver lining for cloud computing.' Available at: <http://www.v3.co.uk/vnnet/news/2239354/cloud-computing-bright-future>

16. For example, there is only one UK-owned platform (the BBC) in the top 100 websites ranked according to traffic by Alexa, a web information company (<http://www.alexa.com/>). Of the top 10 destinations of UK traffic, only the BBC is British owned.

17. Wall Street Journal (2006) 'Free online fantasy game Runescape attracts millions.' 5 October 2006.

18. COMSCORE (2009) 'Fast Growing U.K. Online Newspaper Market Attracting Even Larger Audiences from Beyond the Pond.' Available at: [http://comscore.com/Press_Events/Press_Releases/2009/5/U.K._Newspaper_Sites_Aattract_Visitors_from_Around_the_World/\(language\)/eng-US](http://comscore.com/Press_Events/Press_Releases/2009/5/U.K._Newspaper_Sites_Aattract_Visitors_from_Around_the_World/(language)/eng-US)

Mass participation is happening

The essays in *Reboot Britain* are snapshots of a world at the early stages of a large-scale transformation – understanding what is different about the digitally connected world which is emerging in front of our eyes, and determining where the sources of competitive advantage and social value reside, are essential in order to start forging the path to a better future.

So, what is it that is changing? People are communicating and collaborating with each other, creating and innovating in ways, and in a scale, that was not possible before.⁴ Widespread internet access, affordable and easy-to-use tools for content creation, and free platforms for mass collaboration have helped bring down the barriers between those who make things and those who consume them. More and more people in the UK are coming together in virtual communities, becoming creators, innovators and hackers.⁵ Research commissioned by NESTA⁶ estimates that more than 50 per cent of people between 15 and 35 are creating content and sharing it online on a frequent basis, and 10 per cent of all surveyed are deploying their skills to modify and augment software. It would be possible to dismiss these activities as little more than amateur exercises. It would also be possible to think of them as formative experiences for our future's digital talents.⁷ What cannot be contested is that participation and action are key features of the emerging digital environment. Digital technologies enable everyone to make things happen.

Bringing people together is the business

Many of the leading businesses in the digital economy are based on enabling interaction and participation: Google generates £13.2 billion in annual revenues⁸ by making it possible for people to find each other, and inviting advertisers to the party.⁹ Facebook has grown from a social networking site for US college students into a global phenomenon which was valued at over £2.2 billion in 2008.¹⁰ The market for online games, where communities of millions come together to play and interact in virtual spaces, will be worth £12.6 billion in 2013.¹¹ Digital distribution models exemplified by Apple's iTunes and AppStore are generating substantial revenues by enabling content creators, both large and small, to reach mass audiences.

As is often the case at the early stages of paradigm-shifting innovations, future economic value is difficult to estimate.¹² Digital advertising, an essential source of revenues for content generation, is expected to grow at an annual rate of almost 20 per cent to reach a

value of £72.5 billion in 2013, while advertising in physical media such as newspapers, magazines or directories stagnates.¹³ Digital revenues from music will overtake physical sales by 2011.¹⁴ Cloud computing, where users and firms access software applications online, is projected to reach a market value of £104.9 billion in 2013.¹⁵ Real revenues are moving online, to platforms where people don't consume content and services passively, but engage in relationships, share their ideas and creations, and build communities.

The question is, who will follow them there?

Getting up to speed in the participatory web

The current situation is not encouraging for the UK. In the emerging economy of clicks and links, the creativity and desire to participate, interact and share of people all over Britain are being monetised almost exclusively in platforms located elsewhere.¹⁶ The danger is that the UK's creative industries will suffer the same hollowing out that has affected our manufacturing industries. Since the industrial revolution Britain has been losing its industries to its overseas rivals, who have often profited the most from British creative outputs and innovations. It happened with the computer; will it happen with the participatory web?

This need not be the case. As a multi-cultural, English speaking, digitally literate country, the UK is in a privileged position to create globally appealing digital media platforms and businesses. The world-beating output of the UK creative industries is a resource that can be leveraged to take the lead in the new digital landscape – but if this is to happen, innovative platforms that enable communities to emerge and engage actively with content will have to be developed. Last FM is an excellent example of a successful UK-based business that enables its users to do this in the case of music, while also generating revenues for rights owners. Runescape, an online multi-player game developed by Cambridge studio JAGEX, has 6 million users, and in 2006 generated £30 million in revenues.¹⁷ Newspapers such as the Daily Mail and the Guardian have been successful in their digital transition – their websites already receive more visitors from overseas than from inside the UK.¹⁸ But, as Jon Watts notes in his *Reboot Britain* essay, these seem to be the exception to the norm – in most cases, UK media organisations have been slow to adapt to this new landscape, where users demand the right to participate actively, and build relationships around content.

The right investment climate is needed to turn the UK's creative and entrepreneurial potential into economic growth and wealth generation in this new digital arena. As NESTA has argued in *Demanding Growth*, government has a role in providing intelligent and strategic support for the activities of entrepreneurs in these high-growth sectors.¹⁹ Expanding and deepening the array of business services to support the innovative activities of these 'relationship entrepreneurs' is also necessary. This should be done by taking into account that their activities, by definition, cut across sectors and that there is a risk they might fall between the cracks of different support schemes or industry bodies. Finally, it is important to create spaces where UK entrepreneurs can come together to experiment with, and demonstrate, the potential of new technologies and digital platforms to investors and users. The Technology Strategy Board's commitment to fund several next-generation test-beds for these purposes is a welcome addition to the *Digital Britain* report.

The new social enterprise

A vibrant digital future encompasses all aspects of society. It involves acknowledging that online action accompanies, enables and augments, rather than displaces, action in the real world – we need to complement the vision of 'real things becoming digital' which pervades *Digital Britain*, with one that demonstrates how 'digital things' can become real. Social entrepreneurship is the best example: social enterprises in the UK employ 650,000 individuals and contribute £8.4 billion to the economy.²⁰ Their capacities to deliver socially valuable services and to recruit and support an extensive volunteer base are being substantially improved by digital technologies.

As Paul Miller notes in his *Reboot Britain* essay, the UK already has a vibrant scene of developers and entrepreneurs using technology to work on 'stuff that matters'. These start-ups are able to take risks that government (or large enterprise) can't, by operating more agilely and at smaller scale, by inexpensive prototyping and testing of new digital services, and by recruiting individuals into a culture of entrepreneurship that gives them the experience they need to take their own initiatives forward or find like-minded partners for the future.

JustGiving, a UK-based social enterprise, has mobilised donations of over £470 million by providing a way for individuals to launch their own charity drives and sponsorships.²¹ Mobilising action was also at the heart of Wiltshire student Alex Tew's innovation, the Million Dollar Homepage, which funded Tew's

university course through 'crowd financing', a web-enabled approach to raising capital.

Efforts to improve the business climate should be accompanied by initiatives and incentives that stimulate and nurture socially accountable initiatives – including those in areas of health, education, community, and the environment. The primary motivation behind many of these social enterprises may not be commercial, but this doesn't mean that they cannot be based on sound business models – after the burst of the financial bubble, some investors are starting to realise that addressing basic human needs, and giving meaning to people's lives, can generate returns which are more sustainable than those from speculation in the market. The success in raising capital enjoyed by the School of Everything, a digital platform that brings together teachers and learners, is an example of this.²² It is however necessary to provide potential investors in these platforms with the right incentives, complement their investments with public seed funding, and raise the visibility of promising initiatives in order to demonstrate that doing business and making the world a better place are not clashing goals.

Social technologies help social entrepreneurs operate more effectively. In his *Reboot Britain* essay, Andy Hobsbawm identifies community technologies that enable mass collaboration, including institutions for micro-payment and micro-donations, as examples of these unacknowledged sources of innovation. Their value deserves greater recognition by public sources of research funding.

Government: big on inclusiveness, small on bureaucracy

In the coming years, the public sector will need to address urgent challenges, such as ageing, rising unemployment and climate change, with very limited resources.²³ Digital technologies can help to deliver more value for less of the taxpayer's money²⁴ – to create a government which is big in its inclusiveness, but small in its bureaucracy (and costs). But this will not necessarily be the case, as past failures in the deployment of 'big ticket' Information and Communication Technology (ICT) infrastructure in the public sector demonstrate.

Ensuring widespread participation will be crucial for success. The processes through which these services are designed need, at their heart, the voices of users and frontline staff. And not only at the early stages, through focus groups, but perhaps more importantly once they go 'live'. That's when the real job

19. NESTA (2009) 'Demanding Growth.' London: NESTA.

20. BIS (2008) 'The Real Value of the Third Sector.' Speech by the Rt. Hon. John Hutton MP. Available at: <http://www.berr.gov.uk/aboutus/ministerialteam/Speeches/page45349.html>

21. See <http://www.justgiving.com>

22. The Guardian (2008) 'Elevator Pitch: School of Everything scores £350k funding.' Available at: <http://www.guardian.co.uk/media/pda/2008/apr/28/elevatorpitchschoolofeverything>

23. NESTA (2009) 'The Innovation Imperative.' London: NESTA.

24. For example, it has been estimated that digital technologies such as remote patient monitoring could help cut healthcare expenditures by 25 per cent in the USA. OECD (2008) 'Broadband Growth and Policies in OECD Countries.' Paris: OECD. p.100.

begins. Digital technologies can help to do this, not least in the case of public services that are provided in the 'real world', from healthcare to policing. Enabling users to make their voice heard regarding what works, and what needs to be improved, listening and learning are key skills the government will need to develop.

Achieving the necessary responsiveness requires adopting an agile approach to public service provision, and moving away from the outdated command and control models of public services. In his *Reboot Britain* essay, Paul Miller argues that, in order to do this, the public sector should learn from the practices of innovative start-ups. These practices, which include rapid prototyping, customisation and testing of services, user-driven design and new approaches to collaboration and contracting inspired by the open innovation paradigm make it easier to bring all relevant expertise to bear on difficult problems, experiment with different alternatives and see what works on the ground without large-scale up-front investments.

Ensuring accountability and transparency

Reinvigorating civic and political action is an urgent priority. Access to information can be transformative in every domain and nowhere is it more justified than in the conduct of public purposes. Opening the closed doors that have shielded deliberation and debate and self-seeking behaviour by public servants or interest groups is a long overdue transformation. The electronic democracy websites under the umbrella of mySociety²⁵ show how digital collaboration platforms can help people to navigate, make sense of and respond to the vast swathes of information generated during the political process, and be better citizens. Stronger levels of public engagement with our institutions can only strengthen our democracy.

Enlarging and deepening the common ownership of the information resources created through public investment is an urgent priority and one that is well-articulated in the *Digital Britain* and the earlier *Power of Information Taskforce* reports.²⁶ The challenge is to make it a reality. Simplifying provisions for re-use of public data, improving the technical standards and operating practices supporting re-use, and extending the scope of what information is available, are all vitally important. Expanding these efforts further, and encouraging rapid and broadest possible disclosure throughout the public sector is essential.

Having the right stuff: skills to move forward

In a globally integrated economy, failing to evolve and change the nature of skills and jobs is simply assuring their departure to other

economies. Nurturing and developing the necessary skills for individuals to participate, work and be entrepreneurial in a digital economy are crucial, and the *Digital Britain* report outlines an agenda of government skills provision. The missing story is that many of the skills needed for this are currently being built in the most unlikely of places and in ways that are distinctly disorderly – many young entrepreneurs and technology developers are self-taught, having acquired their skills through experimentation and tinkering with publicly available resources such as Open Source software, or participation in networks of like-minded innovators. Stimulating user-catalysed, action- and collaboration-oriented learning both inside and outside of formal education is an essential part of the participatory agenda that *Reboot Britain* calls for.

A participatory dilemma?

In the face of a changing world, it is often easier to stick with what you know than trying out new things – Christensen's famous 'Innovator's Dilemma'.²⁷ Exploiting existing skills, resources and markets to continue generating predictable revenues can be more appealing than trying completely new things – uncertainty breeds timidity. The problem is that, in a changing world, old sources of competitive advantage might well shrink, with old incumbents and weary giants left behind. There is hope that the UK can pick the right response to this dilemma. Innovators across the UK are not waiting for a leader to show up. In the face of crisis, they are already taking actions to better their lives, to realise their dreams, and to offer something of benefit to others. We need to ensure that policy does not focus exclusively on protecting the interests of those weary giants at the expense of the needs and aspirations of many digital innovators already among us.

The message of *Reboot Britain* is straightforward: we need to make the most of our ever-improving digital infrastructure by galvanising the imagination and catalysing the initiatives of our many digital innovators. The culture of the information age is being built from below right now, from the actions of individuals joining together to build businesses and communities that produce content and services, meeting places and support groups, civic initiatives and town-hall meetings. It is this mass participation that will form the greater part of the vitality and opportunity of Britain's digital future – Britain is being rebooted, and the government must adopt a new mind-set to support this collective effort.

25. See: <http://www.mysociety.org/>

26. The Power of Information Taskforce (2009) 'The Power of Information Taskforce Report.' Available at: <http://poit.cabinetoffice.gov.uk/poit/wp-content/uploads/2009/03/poit-report-final-pdf.pdf>

27. Christensen, C. (1997) 'The innovator's dilemma: when new technologies cause great firms to fail.' Cambridge, MA: Harvard Business School Press.